## SECTION E: HELPM ATES

Judging countries: Finland, Great Britain, Israel, Slovenia, Ukraine
Theme (proposed by Israel): Helpmates in 3,5-n moves. During the solution White moves a piece or a pawn to a square where it is going to be captured by Black, but not immediately. Set play, multisolutions and twins are allowed, but not duplex, Polish-type twins (all pieces change colour) or zeropositions.

## Slovenia's general remarks

The main criterion for evaluating problems with doubling of the theme in each solution (13 examples) was how the white sacrifices were justified. The simplest way was by capturing two black pieces to allow the black king to reach the final square (six examples), but mostly without any additional content. Two problems (E46, E89) used cages on opposite sides of the chessboard, which lowered the value. E56 presented additional content but for the price of a heavy construction. Three (E48, E83, E88) were very similar in economic positions with model mates. In all three, knights and pawns were sacrificed in Zilahi form; the only minor difference between them was the number of captured black officers. Thematically, E04 was better, since Black had to occupy the thematic square first to enable the second white sacrifice, but in an imperfect position. E14 was even better thematically, as White had to sacrifice on an empty square after having no way to escape. The cost is a compromise in the position and especially in the twinning. Two problems (E35, E58) presented one sacrifice for moving the black king to the mating square, and another for enabling the block of a square around the black king; the latter was the only one with three solutions, but only with pawn sacrifices, and severe cost in economy, in addition to moving the white king in the twins. Thematically best was E31, the only one with a strategic element in the thematic play - a critical black move and white interference for the white king to move on the line. M oving a thematic white pawn in the twin and the heavy construction are a shame. E51 and E92 used mixed motives for sacrifices and did not reach the quality of others. For these reasons, no problem fulfilled the general criteria for awarding the highest scores. In problems with only one thematic sacrifice in each solution, the additional thematic content and the construction/economy were decisive.
$1^{\text {st }}$ Place E56
M arek Kolčák
Slovakia

$h \ddagger 3,5$

$h \neq 4$
b) $\mathrm{e} 7 \rightarrow \mathrm{a} 5$
$2^{\text {nd }}$ _3 $3^{\text {rd }}$ Place E14
Misha Shapiro
Israel

Aleksandr Semenenko
Valery Semenenko
Ukraine

b) 寊 98
$(10+15)$
$1^{\text {st }}$ Place ( 10 points) E56: Marek Kolčák (Slovakia)
1...Bxd3 2.Qxd6 Bxd4 3.Kxd3 Rf6 4.Kxd4 Rxd6 $\ddagger$
1..Sxe3 2.Q $\times \mathrm{g} 5$ Rxf4 3.Kxe3 Bf6 4.Kxf4 Bxg5 $\ddagger$

Fourfold rendering of the required theme (two delayed sacrifices of white officers in each solution). The bQ is imitating the idea and is also being captured with a delay. Diagonal-orthogonal correspondence, extended Zilahi (Country) Excellent problem with precise analogy (FIN) Good additional content. The wBe2 could be replaced with a pawn and consequently bBh2 could be saved. Obviously, the author's aim was to arrange sacrifices of officers only (SLO) Two thematic moves in each solution (UKR)

## $2^{\text {nd }}$ - $3^{\text {rd }}$ Place ( 9 points) E14: Misha Shapiro (Israel)

a) 1.Kf6 $\mathrm{Bxd5}$ (Rc4?) 2. Ke5 Rc4 3.Kxd5 e4+4.Kxc4 b3 $\ddagger$
b) 1.Ke7 Rxc5 (Bc4?) 2.Kd6 Bc4 3.Kxc5 b4+4.Kxc4 exd3 $\ddagger$

Two thematic moves in each solution. Grimshaw on c4 defines the order of W1/W2 moves. Two different paths from $\mathrm{f7}$ to c 4 . Exchange of functions between three pairs of units: $\mathrm{a} 2 / \mathrm{c} 2, \mathrm{~b} 2 / \mathrm{e} 2$, $\mathrm{c} 5 / \mathrm{d} 5$ (Country) In the twin Se7 is moved to prevent a dual, but it consequently prevents the king to play in the second solution (SLO) Two thematic moves in each solution. Black's moves are made only by the king (UKR)

## $2^{\text {nd }} 33^{\text {rd }}$ Place ( 9 points) E86: Mikola Kolesnik, Aleksandr Semenenko, Valery Semenenko (Ukraine)

a) 1.Bh4 Bxc3 2.Rd4 Rd6 3.Kxc3 Rb6 4.Kxc4 Rc8 $\ddagger$
b) 1.Rc7 Rxd3 2.Bd4 Be5 3.Kxd3 Bf4 4.Kxe4 Bh7 $\ddagger$

Exchange of functions of black pieces (Rd7, Bf6): line opening - line closing + blocking of d4 square. Exchange of functions of white pieces (Rd8, Bg7): delayed sacrifice - Bristol move +closing of a black line (Country) Although only two thematic moves, the analogy is clean and the content is strong. Clear delay because the bK could capture immediately (FIN)


## $4^{\text {th }}$ Place ( 8,8 points) E55: M arjan Kovačević (Serbia)

1.. Sc4 2.Re7+fxe7 3.Sd8 exd8=Q 4.Rxc4 Qb6ł (2.Sg7+? fxg7 3.Rh8+g×h8=Q 4.R×b5 Qc3?)
1.. Sb5 2.Sg7+fxg7 3.Rh8+gxh8=Q 4.R×b5 Qc3 (2.Re7+? fxe7 3.Sd8 exd8=Q 4.Rxc4 Qb6?)

Anticipatory self-interferences on W1 lead to dual avoidance on B2. Cyclically changed roles of Rb7, Se6 and Rh4 (Country) The best of those compositions with only one thematic sacrifice in each solution. Perfect motive for sacrifice, light position (SLO) Quiet tempo-motivated officer-to-officer sacrifices (UKR)

## $5^{\text {th }}$ Place (8,7 points) E49: Mikola Kolesnik, Aleksandr Semenenko, Valery Semenenko (Ukraine)

1...cxd5 2.c5 Rb7 3.Rc6 Rb4+4.Kxd5 e4 $\ddagger$
1...e3 2.Sf5 Rg7 3.d4 Rxg5 4.dxe3 Rg4 $\ddagger$
1...Rxe6 2.Se8 Kxe8 3.Kf5 e4+4.Kxe6 cxd5 $\ddagger$

Probably the first-ever presentation of cyclic Zilahi with active sacrifices of the white pieces delayed by two moves (W1-B4). Three model mates (Country) Complete cyclic Zilahi in perfect white economy, but the Pc4 guards without moving in one solution (SLO)
$6^{\text {th }} 7^{\text {th }}$ Place ( 8,6 points) E31: Hans Uitenbroek (Netherlands)
a) $1 . . . \mathrm{dxe} 32 . \mathrm{R} 8 \mathrm{~d} 3 \mathrm{Sd} 4+3 . \mathrm{Kxe} 3 \mathrm{Kd6} 4 . \mathrm{Kxd} 4 \mathrm{Sc} 2 \ddagger$
b) 1...dxe4 2.R8d4 Sd5 $3 . \mathrm{Kxe} 4 \mathrm{Kd7} 4 . \mathrm{Kxd} 5 \mathrm{Sxc} 3 \ddagger$

Two thematic moves in each solution. Exchange of functions of the white knights. Zilahi (Country) Analogy is good, but the composition is a bit mechanical and requires many idle pawns and black pieces (FIN) Two thematic moves in each solution. Echoed mates. In the twin, the thematic pawn is shifted (UKR)


## $6^{\text {th }} 7^{\text {th }}$ Place ( 8,6 points) E83:

Silvio Baier, Rolf Wiehagen, Eberhard Schulze, Frank Fiedler (Germany)
1...d xe4 2.Kd3 gxf4 3.Kxe4 Sd2+4.Kxf4 Sg2 $\ddagger$
1..Sxe5 2.Kd4 Sxf5+3.Kxe5 d4+4.Kxf5 g4 $\ddagger$

Fourfold presentation of the theme, Zilahi, change of functions (Sf3/Pd3), $4 \times$ Chumakov (Bf5, Se5 / Pe4, Pf4), one model mate, one ideal mate (Country) Economical and with good analogy, however sort of ordinary and the black play is poor. Delayed moves just because the bK is not there yet (FIN) Two thematic moves in each solution. Black's moves are made only by the king (UKR)

## $8^{\text {th }}$ Place (8,4 points) E54: Ladislav Salai Jr, Emil Klemanič (Slovakia)

1.Qc6 Sxd4 2.Kxc3 exd3 3.Kxd4 fxe3+4.Kc5 d4 $\ddagger$

1. Sg4 f4 2.Ke3 Sxd4 3.Kxf4 e3+4.Kg5 Sf3 $\ddagger$
2. Bf 3 exf3 2.Ke2 hxg 3 3.Kxf3 Sxd4+4.Ke4 f3 $\ddagger$

The three white thematic units ( $\mathrm{Sb} 5, \mathrm{Pe} 2, \mathrm{Pf} 2$ ) change cyclically their roles in the solutions: 1) one is being captured by bK with a delay, 2) the other one is mating the $\mathrm{bK}, 3$ ) another one is guarding a bK flight square. The thematic knight plays to d4 on W1, W2 and W3 move, while the two thematic pawns perform a $3 / 4$ of an Albino each. Probably the first-ever cyclic active Zilahi in a non-twinning helpmate fourmover, here presented with delayed captures (Country) Complete cyclic Zilahi in loaded construction, all three thematic pieces play and change their roles (SLO) Cyclic active Zilahi in a non-twinning helpmate. Inferior to E49, since technical white pawns are used, there are no model mates and the acceptance of the sacrifices is delayed by one move (UKR)

## $9^{\text {th }}$ Place ( 8,2 points, not counting for the country) E04: Emil Klemanič, Ladislav Salai Jr, Ladislav Packa, Peter Gvozdják, Zoltán Labai (Slovakia)

1..Sxe4 2.d5 cxd5 3.Kxe4 f3+4.Kxd5 Se3 $\ddagger$ (2.Rd5? ...5.Kd4!)
1..Sxe5 2.Rd6 cxd6 3.Kxe5 f4+4.Kxd6 Se8 $\ddagger$ (2.d6? ... $5 . K d 7$ !)

Two thematic moves in each solution; double Kniest (on e4/e5 in checking form, and on d5/d6 in mating form); exchanged functions between white knights and also between black Rd4 and Pd7; dual avoidance due to unblock, model mates (Country) Analogy is quite good including black sacrifices, but it does not startle in the end. Many black cook-stoppers are needed (FIN) Two thematic moves in each solution. Kniest, Zajic, choice of play (UKR)
$10^{\text {th }}$ Place E35 Klemen Šivic Slovenia

$h \neq 3,5$

## $11^{\text {th }}$ Place E34 <br> S．K．Balasubramanian <br> S．Manikumar <br> India


$h \ddagger 3,5$
2．1．1．．．
$(3+12)$
$h \ddagger 3,5$
b）巽a1
c）${ }^{\text {崖 }} \mathrm{al}$
$(10+14)$ Aleksandr Semenenko
Valery Semenenko
Ukraine

$10^{\text {th }}$ Place（ 8,1 points）E35：Klemen Šivic（Slovenia）
a） $1 . . . B \times e 42.5 d 3 \mathrm{Sf} 43 . \mathrm{Kxe} 4 \mathrm{Ke} 24 . \mathrm{gxf} 4 \mathrm{cxd} 3 \ddagger$
b）1．．Sxd4 2．Qc5 Bc4 3．Kxd4 Kxd2 4．bxc4 c3 $\ddagger$
Double presentation of the theme．Combination of Kniest and Feather 2 themes（Country）Two thematic moves in each solution．Not quite homogeneous．Unattractive twinning（UKR）

## $11^{\text {th }}$ Place（8 points）E34：S．K．Balasubramanian，S．Manikumar（India）

1．．Sc1 2．Be7（Re7？）fxe7 3．bxcl＝B（＝Q？）e8＝Q（ $=S$ ？）4．Bg5 Qe2 $\ddagger$
1．．Sg1 2．Re7（Be7？）fxe7 3．fxg1＝R（＝Q？）e8＝S（＝Q？）4．Rg5 Sf6 $\ddagger$
Dual avoidance play on $\mathrm{B} 2, \mathrm{~B} 3$ and W 3 moves．The captured piece at e7 is reborn on the next move （Phoenix theme）．Mixed AUW．Two different black pieces captured by the same wP on e7．Two different promotions by the same wP on e8．Two different self－blocks on g5．Exchange of functions between Rb7／Bd6（static self－interference／active sacrifice）．M odel mates on squares vacated by a white piece．White economy with only the mating units in the diagram（Country）Simple sacrifices， but with mixed AUW and dual avoidance in the line opening（FIN）AUW．Repetition of move． Compare to Roman Zalokotsky \＆Mikola Kolesnik，Shakhmatnaya Poeziya 2002，4n3／p3p2K／r1p1P3／ kr2p3／p7／1n6／3pppqb／3b3R，h $\ddagger 4$ ，b）曾b5 $\rightarrow$ b6：a）1．Qd5（Sc5？）Rg1 2．Qd7（Sd7？）exd7 3．fxg1＝B $(=Q$ ？） $\mathrm{d} 8=\mathrm{S}(=\mathrm{Q}$ ？$) 4 . \mathrm{Bb} 6 \mathrm{Sxc} 6 \ddagger$, b） $1 . \mathrm{Sc} 5$（Qd5？）Rf1 2．Sd7（Qd7？）exd7 3．exf1＝B（＝Q？）d8＝Q（＝S？） 4．Bb5 Q $\times \mathrm{d} 2 \ddagger$（UKR）

## $12^{\text {th }}-13^{\text {th }}$ Place（ 7,8 points，not counting for the country）E24： <br> Mikola Kolesnik，Aleksandr Semenenko，Valery Semenenko（Ukraine）

a）1．．．Rd2 2．Q $\mathrm{Qc} 2 \mathrm{Sxc} 23 . \mathrm{exd} 2 \mathrm{Sb} 4$ 4．Ke3 Sd5 $\ddagger$
b）1．．．Rd3 2．Q xa3 Rxa3 3．exd3 Rxa4 4．Ke4 Kc5 $\ddagger$
c） $1 . . . \mathrm{Rd} 42 . \mathrm{Q} \times \mathrm{C} 3+\mathrm{Bxc} 33 . \mathrm{exd} 4 \mathrm{Ba5} 4 . \mathrm{Ke5} \mathrm{Bc} 7 \ddagger$
Three delayed capture－free wR sacrifices on empty squares．Three active bQ sacrifices（Country）
$12^{\text {th }}-13^{\text {th }}$ Place E58 Christopher Tylor

Great Britain

$h \ddagger 3,5$
$14^{\text {th }}-15^{\text {th }}$ Place E39 Menachem Witztum

Israel

(8+12) $\quad h \ddagger 3,5$
c) 觡 $\mathrm{f} \rightarrow \mathrm{al}$
$12^{\text {th }}-13^{\text {th }}$ Place ( 7,8 points) E58: Christopher Tylor (Great Britain)
a) 1...exf4 2.Ke3 g4 3.Kxf4 Kf2 $4 . \mathrm{hxg} 4 \mathrm{Bg} \ddagger \ddagger$
b) 1...cxd4 2.Bd5 e4 3.Kxd4 Kc2 4.fxe4 Bxb6 $\ddagger$
c) $1 . . . c \times b 42 . \mathrm{Kc} 3$ a5 $3 . \mathrm{K} \times b 4 \mathrm{~Kb} 24 . \mathrm{b} \times \mathrm{a} 5 \mathrm{Be} 7 \ddagger$

Two thematic moves in each solution (Country) 6 thematic moves with clean analogy, but not deep strategy. Quite economically done, although there are no model mates. Choice of move in B2 (FIN) Two thematic moves in each phase. The thematic pawns are not needed in the other phases (UKR)

## $14^{\text {th }}$ - $15^{\text {th }}$ Place ( 7,5 points) E39: Menachem Witztum (Israel)

1..Sf3+2.Kxh5 Ke4 3.Bxf3+Kf5 4.Bg4+hxg4 $\ddagger$
1..Se2 2.Kf6 Kxe3 3.Rxe2+Kf4 4.Re5 dxe5 $\ddagger$

White and black active sacrifices. Black sacrifices the piece that captures the sacrificed white piece. M odel mates (Country) Capture-free sacrifices of the thematic piece (UKR)
$14^{\text {th }}$ - $15^{\text {th }}$ Place ( 7,5 points, not counting for the country) E66: Shaul Shamir, Jean Haymann (Israel)
1.Se4 (1.Be4?) Bf6 2.c3 Bxd4 3.Kc4 b3+4.Kxd4 Sf3 $\ddagger$
1.Bd7 (1.Sd7?) Sf5 2.Rc6 Sxd6 3.Kc5 b4+4.Kxd6 Bf4 $\ddagger$

Zilahi, Kniest, dual avoidance, follow-my-leader, distant self-blocks, model mates (Country) Mate positions are built, good analogy with dual avoidance (FIN) Zilahi, Kniest, choice of move (UKR)
$16^{\text {th }}-17^{\text {th }}$ Place E29 Marjan Kovačević Serbia

$h \ddagger 3,5 \quad$ 2.1.1...
$16^{\text {th }}-17^{\text {th }}$ Place E48 Michel Caillaud

France
$h \ddagger 3,5$

2.1.1...

Udo Degener
Rolf Wiehagen
Germany

$h \ddagger 3,5$
b) $\sum \mathrm{b} 7 \rightarrow \mathrm{c} 7$
(8+10)
c) $\triangle \mathrm{b} 7 \rightarrow \mathrm{~d} 7$
$16^{\text {th }}-17^{\text {th }}$ Place ( 7,4 points) E29: Marjan Kovačevićc (Serbia)
1...e8=B 2.Bg6 Sxc7+3.Kf6 Kd6 4.Rxe8 Sxe8ł
$1 . . . e 8=52 . \mathrm{Sb} 5+\mathrm{Kxb5} 3 . \mathrm{Kd7}$ b7 4.K×e8 bxc8=Q $\ddagger$
Double presentation of Schnoebelen theme. Rc8 and Sc7 exchange their roles (active/passive sacrifices) (Country) Promotion is the only possible white move (SLO) Schnoebelen theme (UKR)

## $16^{\text {th }}-17^{\text {th }}$ Place ( 7,4 points) E48: Michel Caillaud (France)

1...fxe5 2.Kf4 Sxd6 3.Kxe5 Sf3+4.Kxd6 e5 $\ddagger$
1...exf5 2.Ke4 Sxe6 3.Kxf5 Sh6+4.Kxe6 f5 $\ddagger$

Follow-my-leader, Kniest, extended Zilahi, Chumakov, chameleon echo model mates (Country) Good analogy and economical setting, but boring black play (FIN) Two thematic moves in each solution. Black's moves are made only by the king (UKR)

18 ${ }^{\text {th }}$ Place ( 7,2 points) E65: Udo Degener, Rolf Wiehagen (Germany)
a) $1 . . \mathrm{Sxc} 42 . \mathrm{Kd} 3 \mathrm{Ke} 53 . \mathrm{Kxc} 4 \mathrm{Sa} 5+4 . \mathrm{Kc} 5 \mathrm{exd} 4 \ddagger$
b) 1...exd4 2.Ke3 Sd3 3.Kxd4 Sb5+4.Kxd5 fxe4 $\ddagger$
c) 1...fxe4 $2 . \mathrm{Kf} 3 \mathrm{Kg} 63 . \mathrm{Kxe} 4 \mathrm{Sf} 6+4$. $\mathrm{Ke} 5 \mathrm{Sxc} 4 \ddagger$

Active cyclic Zilahi, cycle of W1/W4 moves, Kniest at W1, black Durbar (analogy of the $3 \times 3$ bKmoves), uniform twinning (Country) Cyclic Zilahi, but only a cycle of sacrifices and mates (SLO) Cycle of W 1/W4 moves. Drawback: in a) the thematic wPf3 is not needed (UKR)
$19^{\text {th }}-20^{\text {th }}$ Place E88
George P. Sphicas
Kostas Prentos
United States

$h \ddagger 3,5 \quad$ 2.1.1...
(5+8)

$\mathbf{1 9}^{\text {th }}-20^{\text {th }}$ Place ( 7 points) E88: George P. Sphicas, Kostas Prentos (United States)
1..f fg 4 2.Kf3 Sxh5 3.Kxg4 Kxg7 4.K×h5 Sf6 $\ddagger$
1...exf4 2.Ke3 Sxg5 3.Kxf4 Sd5+4.Kxg5 f4 $\ddagger$

Two thematic moves in each solution. Black's moves are made only by the king. The thematic wPe3 is not needed in the first solution (UKR)

## 19 ${ }^{\text {th }}$-20 ${ }^{\text {th }}$ Place ( 7 points) E92: M ichel Caillaud (France)

1.. $\mathrm{Sxd6} 2 . \mathrm{d} 4 \mathrm{Bf} 33 . \mathrm{Bxd6} \mathrm{a} 8=\mathrm{Q} 4 . R \times f 3 \mathrm{Qxf3} \ddagger$
1.. Sc5 2.Kd4 Bc6 3.Kxc5 a8=R 4.Kxc6 Rxc8 $\ddagger$

Zlahi (Se4, Pf3), Kniest (h5, g5), Chumakov (Pg4, Ph5), Kozhakin (f4), model mates (Country) Two thematic moves in each solution. Black's play is not quite homogeneous (UKR)

## $21^{\text {st }}-24^{\text {th }}$ Place

- E36 (6,8 points): János Csák (Hungary) Rendering of the theme by both White and Black. Simplified Chumakov theme. M odel mates (Country) Original, although the thematic play varies (FIN) Exchange of the blocking pieces (UKR)
- E42 (6,8 points): Zoran Gavrilovski (North Macedonia) Three delayed white sacrifices with cyclic change of functions of three white units including cyclic Zilahi. Play of the bK on 8 different squares with follow-my-leader effect in two solutions; square vacation, two model mates (Country) Cyclic Zilahi. In all phases, the theme is implemented at different levels of play (UKR)
- E81 ( 6,8 points): János Csák (Hungary) Tempo sacrifices, interference unpins with dual avoidance due to unblock, model mates (Country) Clean white tempo with a delay. Dual avoidance, but otherwise mainly bK/wP walks, not very good economy (FIN) Quiet tempomotivated sacrifices. In the second solution, there is no dual avoidance because 2 .Se6? not only vacates the black king's future flight but also takes the mate-line under control (no purity of aim) (UKR)
- E84 (6,8 points): Mark Kirtley, George P. Sphicas (United States) Black mirrors White's theme of moving a piece to a square to be captured there after some delay. The delay in the capture of the $w R$ in both solutions is somewhat paradoxical since it is legal for Black to capture immediately. Mixed AUW (Country) AUW. Repetition of the move b7. Compare to Roman Zalokotsky \& Mikola Kolesnik, Shakhmatnaya Poeziya 2002, 4n3/p3p2K/r1p1P3/ kr2p3/p7/1n6/ $3 p p p q b / 3 b 3 R, h \neq 4$, b) 曾b5 $\rightarrow$ b6: a) 1.Qd5 (Sc5?) Rg1 2.Qd7 (Sd7?) exd7 3.fxg1=B (=Q?) d8=S (=Q?) 4.Bb6 Sxc6ł, b) 1.Sc5 (Qd5?) Rf1 2.Sd7 (Qd7?) exd7 3.exf1=B (=Q?) d8=Q (=S?) 4.Bb5 Q×d2 $\ddagger$ (UKR)


## $25^{\text {th }}-29^{\text {th }}$ Place

- E25 (6,6 points): Jorma Paavilainen (Finland) Echoed mates (UKR)
- E28 (6,6 points): Zoran Gavrilovski (North Macedonia) Three delayed white sacrifices with cyclic Zilahi. Play of the bK on 9 different squares and Y-flights by the wK. Full harmony of the play (W1: sacrifice; B2: bK's move with follow-my-leader effect; W2: wK's move to guard squares; B3: acceptance of sacrifice by bK; W3: check to bK by wP; B4: arrival of bK on the $5^{\text {th }}$ row; W4: mate by wP on the fourth row). Uniform twinning by transfer of a bP which does not move in a) (Country) In the first solution, the thematic Pe3 is needed neither for the WCCT theme nor for the Zilahi (UKR)
- E47 ( 6,6 points, not counting for the country): Silvio Baier (Germany) Tempo sacrifices on the same square with exchanged W1/W4 moves (Country) Quiet tempo-motivated sacrifices of pieces on the same square. Acceptance of sacrifices is delayed by 2 moves (UKR)
- E62 (6,6 points): Mikael Grönroos (Finland) Four successive pawn sacrifices (UKR)
- E72 (6,6 points): Ivo Tominić (Croatia) The active pawn of the black half-battery annihilates wPd3, W1 anticipatory sacrifices, W2 follow-my-leader; the inactive pawn prevents dualistic route of the other knight. Reciprocal roles of black pawns and white knights, Zilahi. Though looking same in notation, the moves 3 and 4 are performed by different units (Country) Quiet sacrifices with choice of move (UKR)


## 30 ${ }^{\text {th }}$ Place

- E32 (6,3 points): Stephen Taylor (Great Britain) Thematic sacrifices on W1 are different moves by the same pawn to squares eventually occupied by the mating piece (Country) Acceptance of sacrifices is delayed by two moves, but the solutions are not quite homogeneous (UKR)


## $31^{\text {st- }} 32^{\text {nd }}$ Place

- E67 (6,2 points, not counting for the country): Zlatko Mihajloski (North Macedonia)

Two delayed white sacrifices with Zilahi; one-two step play by wPh2; model mates on the same square (Country) Quiet sacrifices of pieces at different timing (UKR)

- E89 (6,2 points): Indrek Aunver, Christer Jonsson (Sweden) Two thematic moves in each solution (Country) Two thematic moves in each solution. Black's moves are made only by the king. The thematic pawns are not needed in the other solutions (UKR)


## $33^{\text {rd }}-38^{\text {th }}$ Place

- E22 (6 points): Francesco Simoni (Italy) Delayed capture of the sacrificed unit due to the need to unpin first, with unpin moves specified by distant self-blocks. The bK moves then to the square cleared by the capturing unit. Zilahi and model mates (Country) Quiet sacrifice of the thematic piece. Zilahi (UKR)
- E33 ( 6 points, not counting for the country): Janne Syväniemi (Finland) M ate by royal battery. In one phase, the sacrifice can be accepted at once; in the other, this cannot be done immediately (UKR)
- E60 (6 points): Cornel Pacurar (Canada) Quiet officer-to-officer sacrifices (UKR)
- E69 (6 points): Antanas Vilkauskas (Lithuania) Two self-blocks by bQ and bR (Country) Officer-to-officer sacrifices (UKR)
- E71 (6 points): Indrek Aunver (Sweden) Sacrifices to provide Black with a later tempo move (Country) Quiet tempo-motivated sacrifices of pieces. Zilahi (UKR)
- E74 (6 points): R. Phanibhushan (India) Active Zilahi and exchange of functions. White battery formations and paradoxical destruction of newly formed batteries (Anti-Ziel element). Black king is mated on the squares initially occupied by white bishop and rook. Orthogonal-diagonal mates and distant self-blocks with dual avoidance. Analogy of play between the two phases (Country) Nice play with moves to squares previously occupied by the blocking piece or the mating piece. The analogy doesn't quite work in Black's second move, because the bB doesn't move (FIN) Anticipated by M ikola Kolesnik \& Valery Semenenko, $3^{\text {rd }}$ HM $8^{\text {th }} T$ M aroc Echecs 2018 (WinChloe ID 775933) (UKR)


## $39^{\text {th }}-44^{\text {th }}$ Place

- E26 (5,8 points): Gerard Smits (Netherlands) Anticipated play (FIN) Quiet sacrifice of the white rook. Echoed mates (UKR)
- E43 (5,8 points, not counting for the country): János Csák (Hungary) Zilahi (Country) BK move for b-form is distracting, but quite good analogy, where the sacrifice motive is black line interference for white king (FIN) Interference sacrifices, but the twinning shifts the bK a long way (SLO) Quiet sacrifices of pieces. Zilahi (UKR)
- E63 (5,8 points): Andy Ooms (Belgium) Follow-my-leader, exchange of functions, Zilahi, Avanta, chameleon echo model mates (Country) Quiet sacrifices of pawns (UKR)
- E75 (5,8 points): Antanas Vilkauskas (Lithuania) Zlahi, Kniest and Chumakov (Country)
- E79 ( 5,8 points): Ján Dučák, Miroslav Svítek (Czech Republic) Exchange of W1/W4 moves, Zilahi (Country)
- E91 (5,8 points): Lkhundevin Togookhuu (Mongolia) Critical Grimshaw, three self-blocks in each solution, model mates (Country) Not quite homogeneous (UKR)


## $45^{\text {th }}-47^{\text {th }}$ Place

- E15 (5,6 points, not counting for the country): Živan Šušulić (Serbia) Two critical moves over e5 with two different bR interferences on e5. White rook on all 4 corners (Country) Officer-toofficer sacrifices. Critical moves. No homogeneity (UKR)
- E21 (5,6 points): Vlaicu Crișan (Romania) Long delayed captures. Diagonal-orthogonal correspondence and exchange of white functions (Country) In the twin, a thematic pawn is shifted. Repetition of the thematic move 4.Kxe3 (UKR)
- E51 (5,6 points, not counting for the country): George P. Sphicas (United States) Two thematic captures in each solution. Meredith with only pawns. Model mates (Country) Two thematic moves in each solution. Repetition of pawn sacrifice on d4. Acceptance of sacrifice at different timing. Not quite homogeneous (UKR)


## $48^{\text {th }}-51^{\text {st }}$ Place

- E12 (5,4 points): Ricardo de Mattos Vieira (Brazil) wP/bK follow-my-leader, bR/bS reciprocal play (captured / self-block = Chumakov), wS/wB reciprocal play (guard/mate), wPd2/wPd3 reciprocal play (delayed active sacrifice / passive guard), Kniest (Country)
- E46 (5,4 points): Mario Parrinello (Italy) Two thematic moves in each solution. Zilahi, Kniest allowed by active white sacrifices, model mates and follow-my-leader effects (Country) Two thematic moves in each solution. Non-playing thematic pawns (UKR)
- E61 ( 5,4 points, not counting for the country): Michael McDowell (Great Britain) Theme shown by Black as well as by White. Two sacrifices of $w S$ and two mates by wB occur reciprocally on $\mathrm{f7}$ and g6 (Country) Quiet sacrifices of a white piece. Black's delayed sacrifices. Elements of symmetry (UKR)
- E73 (5,4 points): Marko Klasinc (Slovenia) Interferences on the fourth row and Zilahi (Country) Quiet sacrifices (UKR)


## $52^{\text {nd }}-58^{\text {th }}$ Place

- E01 ( 5,2 points, not counting for the country): Borisas Gelpernas, Viktoras Paliulionis, Antanas Vilkauskas (Lithuania) Black active and white active delayed sacrifices, Kniest, promotions, model mates (Country) Artificial extension to $\mathrm{h} \ddagger \mathrm{n}$. If the wS is shifted to g 6 , the concept is implemented in 3 moves (UKR)
- E10 (5,2 points, not counting for the country): Christer Jonsson (Sweden) Quiet (no check, no capture) sacrifice of the white piece. Elements of symmetry (UKR)
- E30 (5,2 points): Jorge J. Lois, Roberto Osorio (Argentina) Active delayed Zilahi, follow-myleader, Chumakov, Kniest, Kozhakin. M eredith (Country)
- E37 (5,2 points, not counting for the country): Michel Caillaud (France) 4 thematic sacrifices in a single line (Country) The finales of the set play and the solution are the same. Repetition of thematic sacrifices (UKR)
- E41 (5,2 points): Dieter Werner, Anton Baumann, Thomas Maeder (Switzerland) Quiet sacrifices of pawns. Repetition of mating move (UKR)
- E68 (5,2 points): Theodoros Giakatis (Greece) Kniest, Phoenix (Country) Chumakov, Kniest (UKR)
- E70 (5,2 points): Theodoros Giakatis (Greece) Kniest, M aslar (Country) Two sacrifices of pawns in a single phase (UKR)


## 59 ${ }^{\text {th }}$ Place

- E17 (5 points): Lkhundevin Togookhuu (Mongolia) Line clearances. Self-pins. Exchange of wR/wB functions (mate/pin). Model mates (Country) The twinning moves a thematic pawn (SLO) Not quite homogeneous. Pin-mates (UKR)


## $60^{\text {th }}-63^{\text {rd }}$ Place

- E06 (4,8 points): Jan Rusinek (Poland) Bf3? cannot be classified as choice of move (UKR)
- E45 (4,8 points): Miguel Uris (Spain) Zilahi, Kniest, self-blocks, square vacation, exchanged functions, model mates (Country) In the first solution, the mate is not model, contrary to the claim (UKR)
- E50 (4,8 points): Vlaicu Criṣan, Paul Rãican (Romania) Cyclic change of functions among three white pieces (Country) Blocking of the a6-square by different black bishops (UKR)
- E85 (4,8 points): Ashot Egiazaryan (Armenia) In three solutions the theme is shown 4 times three times by White and one time by Black (Country) Acceptance of sacrifices at different timing. Heterogeneous play (UKR)


## $64^{\text {th }}-69^{\text {th }}$ Place

- EO2 (4,6 points): Miroslav Svítek (Czech Republic) Four white promotions to pieces of the same type as that of the captured black pieces: $b B \rightarrow w B, b Q \rightarrow w Q, b R \rightarrow w R, b Q \rightarrow w Q$ (Country) M ultiple repetition of thematic moves (UKR)
- E11 (4,6 points, not counting for the country): Dimitris Liakos (Greece) Three heterogeneous solutions with sacrifices of white pieces at different timing (UKR)
- E18 (4,6 points): Bogusz Piliczewski (Poland) wS tempo sacrifices, bQ sacrificial hideaways, chameleon echo model mates, Meredith (Country) Sacrifices are accepted at different timing (UKR)
- E20 (4,6 points, not counting for the country): S. Manikumar, S.K. Balasubramanian (India) Anticipatory active sacrifices, Zilahi, Kniest, Chumakov. B1 moves unblock and self-block. Long trips of mating pieces on opposite directions (clockwise and anti-clockwise). No white pawns (Country) Anticipated play (FIN) Active Zilahi, Kniest, Chumakov (UKR)
- E57 (4,6 points, not counting for the country): Lkhundevin Togookhuu (Mongolia) Critical Grimshaw. Three self-blocks in each solution. Come-and-go play (Country) Repetition of 2...Sf3. In the twin, the thematic white pawn is shifted (UKR)
- E90 (4,6 points): Jorge M. Kapros (Argentina) The square where the white unit is sacrificed in one phase is the mate square in the other phase. Model mates, miniature (Country) Quiet sacrifices of a piece. Elements of symmetry (UKR)


## $70^{\text {th }}$ Place

- E40 (4,5 points, not counting for the country): Ljubomir Ugren (Slovenia) Black line closing to enable unpin of the white rook. Echo model mates (Country) Not homogeneous sacrifices (UKR)


## $71^{\text {st- }}$ 73 ${ }^{\text {rd }}$ Place

- E05 (4,2 points): Sergey Chidemyan (Armenia) Changed square blocks, follow-my-leader play (Country) Repetition of 4.Se4. In the twin, a thematic piece is shifted (UKR)
- E64 (4,2 points): Marcos Roland (Brazil) Underpromotion. Anticipatory sacrifices by both White and Black. Negative wB star, with three different reasons why other moves don't work. Kozhakin. Tempo tries (Country) Quiet sacrifice of a piece with choice of move (UKR)
- E77 (4,2 points): Gerold Schaffner (Switzerland) Acceptance of sacrifices at different timing. Zilahi (UKR)
$74^{\text {th }}-76^{\text {th }}$ Place
- E07 (4 points): Miguel Uris (Spain) Active sacrifices, Kniest, self-blocks, promotions, square vacation, follow-my-leader play (Country) Repetition of move (UKR)
- E44 (4 points, not counting for the country): Gerold Schaffner, Martin W. Hoffmann, Thomas Maeder (Switzerland) Acceptance of sacrifices at different timing. One sacrifice is quiet, the other is not (UKR)
- E76 (4 points): Poul Hedegaard Nielsen (Denmark) Acceptance of sacrifices at different timing. Brutal sacrifices (UKR)


## $77^{\text {th }}-79^{\text {th }}$ Place

- E13 (3,8 points, not counting for the country): Jorge M. Kapros, Roberto Osorio (Argentina) Elements of symmetry. Black's moves are made only by the king (UKR)
- E38 (3,8 points, not counting for the country): Aleksey Gasparyan (Armenia) Sacrifices of white pieces to pawns for promotion, Zlahi, changed square blocks, model mates (Country) Partially anticipated by WinChloe ID 594701 (UKR)
- E87 (3,8 points, not counting for the country): Stefan Milewski (Poland) Active white delayed sacrifice, check avoidance, Kniest, wB long trip, model mate (Country) Only one thematic sacrifice (UKR)


## $80^{\text {th }}$ Place

- E53 (3,6 points, not counting for the country): Miguel Uris (Spain) Roentgen theme, self-blocks, square vacation, ideal epaulette mate, gate opening (Country) Only one thematic sacrifice (UKR)


## $81^{\text {st- }} 82^{\text {nd }}$ Place

- E80 (3,4 points, not counting for the country): Ricardo de Mattos Vieira (Brazil) Theme by White ( $2 . . .93$ and $4 . f \times g 3+$ ) and pseudo-theme by Black ( $5.5 d 3$ and 6 ....cxd $\ddagger \ddagger$ ). The black moves are played by six different pieces and none of them may be replaced by another of a different kind (the rook must be a rook, the queen must be a queen, and so on) (Country) The theme is presented one time only (UKR)
- E82 (3,4 points): Steffen Slumstrup Nielsen, Bjørn Enemark (Denmark) Thematic move with unpinning motivation (Country) Only one thematic sacrifice (UKR)
$83^{\text {rd }}$ Place
- E03 (3,2 points, not counting for the country): Miroslav Svítek (Czech Republic) Cycle of types of captured black pieces and types of promoted white pieces in respect to positions a) to c): bB$w Q, b Q-w R, b R-w B$ and $b)$ to d) or e): bQ-wR, bR-wB, bB-wQ (Country) Multiple repetitions of moves by both sides. Black's moves are made only by the king (UKR)


## $84^{\text {th }}$ Place

- E52 (3 points, not counting for the country): Steffen Slumstrup Nielsen (Denmark) Ideal mate with the black king on the square initially occupied by the white king (Country) Only one thematic sacrifice (UKR)

Section E: Helpmates

| Place | Country | No | FIN | GBR | ISR | SLO | UKR | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | SVK | E56 | 3,6 | 3,2 | 3,6 | 3,2 | 3,2 | 10,0 |
| 2-3 | ISR | E14 | 2,2 | 3,6 |  | 3,4 | 2,6 | 9,0 |
| 2-3 | UKR | E86 | 3,2 | 3,0 | 3,0 | 2,4 |  | 9,0 |
| 4 | SRB | E55 | 2,4 | 3,0 | 3,0 | 3,0 | 2,8 | 8,8 |
| 5 | UKR | E49 | 2,0 | 3,2 | 3,0 | 2,8 |  | 8,7 |
| 6-7 | NED | E31 | 2,8 | 3,2 | 2,4 | 3,4 | 2,6 | 8,6 |
| 6-7 | GER | E83 | 3,0 | 3,0 | 2,6 | 3,0 | 2,4 | 8,6 |
| 8 | SVK | E54 | 2,2 | 2,8 | 2,8 | 2,8 | 2,8 | 8,4 |
| 9 | SVK | E04 | 2,8 | 3,0 | 2,2 | 3,2 | 2,4 | 8,2 |
| 10 | SLO | E35 | 2,4 | 3,2 | 3,0 |  | 2,2 | 8,1 |
| 11 | IND | E34 | 2,6 | 2,6 | 2,8 | 2,8 | 2,2 | 8,0 |
| 12-13 | UKR | E24 | 2,4 | 3,2 | 2,8 | 2,4 |  | 7,8 |
| 12-13 | GBR | E58 | 2,8 |  | 2,4 | 3,4 | 2,0 | 7,8 |
| 14-15 | ISR | E39 | 2,2 | 2,8 |  | 2,4 | 2,6 | 7,5 |
| 14-15 | ISR | E66 | 2,6 | 2,4 |  | 2,6 | 2,2 | 7,5 |
| 16-17 | SRB | E29 | 1,4 | 2,8 | 2,4 | 2,6 | 2,4 | 7,4 |
| 16-17 | FRA | E48 | 2,6 | 2,6 | 2,0 | 3,0 | 2,2 | 7,4 |
| 18 | GER | E65 | 2,0 | 2,8 | 2,4 | 2,6 | 2,2 | 7,2 |
| 19-20 | USA | E88 | 1,6 | 3,0 | 2,2 | 3,0 | 1,8 | 7,0 |
| 19-20 | FRA | E92 | 2,2 | 3,2 | 2,2 | 2,4 | 2,4 | 7,0 |
| 21-24 | HUN | E36 | 2,8 | 1,8 | 2,6 | 2,4 | 1,8 | 6,8 |
| 21-24 | MKD | E42 | 1,8 | 2,2 | 2,4 | 2,4 | 2,2 | 6,8 |
| 21-24 | HUN | E81 | 2,4 | 2,2 | 2,4 | 2,2 | 2,0 | 6,8 |
| 21-24 | USA | E84 | 1,8 | 2,0 | 2,6 | 2,6 | 2,2 | 6,8 |
| 25-29 | FIN | E25 |  | 2,2 | 2,2 | 2,2 | 2,0 | 6,6 |
| 25-29 | FIN | E62 |  | 2,6 | 1,6 | 2,0 | 2,4 | 6,6 |
| 25-29 | M KD | E28 | 2,0 | 2,4 | 2,2 | 2,4 | 1,8 | 6,6 |
| 25-29 | GER | E47 | 2,0 | 1,8 | 2,4 | 2,4 | 2,2 | 6,6 |
| 25-29 | CRO | E72 | 1,0 | 2,4 | 2,0 | 2,4 | 2,2 | 6,6 |
| 30 | GBR | E32 | 2,2 |  | 1,8 | 2,6 | 2,0 | 6,3 |
| 31-32 | SWE | E89 | 1,6 | 2,8 | 2,0 | 2,4 | 1,8 | 6,2 |
| 31-32 | M KD | E67 | 1,8 | 2,2 | 2,2 | 2,0 | 2,0 | 6,2 |
| 33-38 | LTU | E69 | 1,6 | 1,8 | 2,0 | 2,2 | 2,6 | 6,0 |
| 33-38 | IND | E74 | 2,6 | 1,6 | 2,2 | 2,2 | 0,4 | 6,0 |
| 33-38 | CAN | E60 | 1,4 | 1,8 | 2,0 | 2,2 | 2,2 | 6,0 |
| 33-38 | FIN | E33 |  | 2,2 | 1,8 | 2,2 | 1,8 | 6,0 |
| 33-38 | SWE | E71 | 2,4 | 2,0 | 1,8 | 2,2 | 1,8 | 6,0 |
| 33-38 | ITA | E22 | 2,2 | 1,8 | 2,2 | 2,0 | 1,8 | 6,0 |
| 39-44 | NED | E26 | 1,6 | 2,6 | 2,2 | 1,0 | 2,0 | 5,8 |
| 39-44 | HUN | E43 | 2,8 | 1,8 | 2,0 | 2,0 | 1,8 | 5,8 |
| 39-44 | LTU | E75 | 2,0 | 2,2 | 1,8 | 2,0 | 1,8 | 5,8 |
| 39-44 | MGL | E91 | 2,0 | 2,2 | 2,0 | 1,8 | 1,4 | 5,8 |
| 39-44 | BEL | E63 | 1,8 | 2,0 | 2,0 | 2,4 | 1,6 | 5,8 |
| 39-44 | CZE | E79 | 1,8 | 2,4 | 2,0 | 2,0 | 1,8 | 5,8 |


| $45-47$ | SRB | E15 | 1,8 | 2,4 | 1,8 | 1,6 | 2,0 | 5,6 |
| :--- | :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $45-47$ | ROU | E21 | 1,2 | 2,2 | 1,8 | 2,2 | 1,6 | 5,6 |
| $45-47$ | USA | E51 | 1,6 | 2,4 | 1,8 | 2,2 | 1,6 | 5,6 |
| $48-51$ | ITA | E46 | 1,6 | 2,0 | 1,6 | 2,8 | 1,8 | 5,4 |
| $48-51$ | GBR | E61 | 1,4 |  | 1,6 | 2,0 | 2,2 | 5,4 |
| $48-51$ | SLO | E73 | 1,8 | 1,8 | 1,8 |  | 1,8 | 5,4 |
| $48-51$ | BRA | E12 | 1,8 | 2,2 | 1,8 | 1,4 | 1,8 | 5,4 |
| $52-58$ | ARG | E30 | 2,0 | 1,6 | 1,8 | 1,4 | 1,8 | 5,2 |
| $52-58$ | SWE | E10 | 2,0 | 2,2 | 1,4 | 1,6 | 1,6 | 5,2 |
| $52-58$ | FRA | E37 | 1,6 | 1,8 | 1,6 | 2,2 | 1,8 | 5,2 |
| $52-58$ | GRE | E68 | 1,6 | 1,4 | 2,0 | 2,2 | 1,6 | 5,2 |
| $52-58$ | GRE | E70 | 1,4 | 1,8 | 1,8 | 1,8 | 1,6 | 5,2 |
| $52-58$ | LTU | E01 | 2,4 | 1,6 | 1,8 | 1,8 | 1,0 | 5,2 |
| $52-58$ | SUI | E41 | 1,6 | 2,0 | 1,4 | 2,0 | 1,6 | 5,2 |
| 59 | MGL | E17 | 1,0 | 1,6 | 1,8 | 2,0 | 1,6 | 5,0 |
| $60-63$ | POL | E06 | 1,6 | 1,6 | 1,6 | 1,4 | 1,6 | 4,8 |
| $60-63$ | ROU | E50 | 1,4 | 1,8 | 2,0 | 1,6 | 1,4 | 4,8 |
| $60-63$ | ESP | E45 | 1,8 | 1,4 | 1,8 | 1,6 | 1,4 | 4,8 |
| $60-63$ | ARM | E85 | 1,6 | 1,8 | 1,8 | 1,4 | 1,4 | 4,8 |
| $64-69$ | CZE | E02 | 1,0 | 1,6 | 1,6 | 1,6 | 1,4 | 4,6 |
| $64-69$ | IND | E20 | 0,8 | 1,6 | 2,0 | 1,0 | 2,0 | 4,6 |
| $64-69$ | MGL | E57 | 1,8 | 1,2 | 2,2 | 1,4 | 1,4 | 4,6 |
| $64-69$ | POL | E18 | 1,6 | 1,4 | 1,8 | 1,4 | 1,6 | 4,6 |
| $64-69$ | GRE | E11 | 1,2 | 1,4 | 1,6 | 1,6 | 1,6 | 4,6 |
| $64-69$ | ARG | E90 | 1,2 | 1,4 | 1,6 | 1,6 | 1,6 | 4,6 |
| 70 | SLO | E40 | 1,2 | 1,6 | 1,6 |  | 1,4 | 4,5 |
| $71-73$ | ARM | E05 | 2,0 | 1,4 | 1,4 | 1,2 | 1,4 | 4,2 |
| $71-73$ | SUI | E77 | 1,2 | 1,2 | 1,6 | 2,0 | 1,4 | 4,2 |
| $71-73$ | BRA | E64 | 1,2 | 1,4 | 1,4 | 1,4 | 1,6 | 4,2 |
| $74-76$ | ESP | E07 | 1,2 | 1,0 | 1,6 | 1,6 | 1,2 | 4,0 |
| $74-76$ | DEN | E76 | 1,2 | 1,2 | 1,4 | 1,8 | 1,4 | 4,0 |
| $74-76$ | SUI | E44 | 1,4 | 1,0 | 1,6 | 1,2 | 1,4 | 4,0 |
| $77-79$ | ARG | E13 | 1,0 | 1,2 | 1,4 | 1,6 | 1,2 | 3,8 |
| $77-79$ | POL | E87 | 1,2 | 1,8 | 1,4 | 1,0 | 1,2 | 3,8 |
| $77-79$ | ARM | E38 | 1,4 | 1,2 | 1,4 | 0,0 | 1,2 | 3,8 |
| 80 | ESP | E53 | 1,0 | 1,2 | 1,4 | 1,2 | 1,2 | 3,6 |
| $81-82$ | DEN | E82 | 1,0 | 1,0 | 1,2 | 1,2 | 1,2 | 3,4 |
| $81-82$ | BRA | E80 | 1,0 | 1,0 | 1,6 | 1,0 | 1,4 | 3,4 |
| 83 | CZE | E03 | 0,8 | 1,0 | 1,4 | 1,2 | 1,0 | 3,2 |
| 84 | DEN | E52 | 1,0 | 0,8 | 1,2 | 1,0 | 1,0 | 3,0 |
|  | NED | E27 | 0,0 | 2,0 | 1,2 | 0,0 | 1,0 | 0,0 |
|  | ITA | E59 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
|  |  |  | 10,0 |  |  | 1 |  |  |

