Strong NoTrump for mathematicians

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The short name of the system is **sNT**.

It is a relay-based **Acol**-style natural system.

Unlimited opening bid 1NT promises 21+ points or ≤ 5 losers (see 4).

sNT uses the compression scheme for distributions, described in Coding the distributions in contract bridge, please read it first!

If not specified, we assume that N opens the bidding.

Correct your points – reduce one point for 4-3-3-3, add one point for double, two points for singleton and 3 points for a void. Reduce a point for singleton K, D or J.

Exceptions: With distributions 4-4-3-2 and 5-3-3-2 do nothing, for 5-4-2-2 add one point.

1 One-level openings

 $1 / \sqrt{\nabla} /$ promises a 4+ card suit and 11-20 corrected points.

Divide the strength to min/max - 11-14/15-20 points (- and + in table 1). With minimum open without 6+ color. With skew bicolor 6-4-x-x open in 6-th color. With flat bicolor (4-4-x-x, 6-6-0-0) open in lower color, if the colors are not glued, and in higher, if they are glued. With 4-4-4-0 open in the color, preceding shortness (with short \clubsuit open 1 \spadesuit).

Exceptions:

With min and 6-4-x-x open $1\clubsuit$. With min and x-6-4-x open $1\diamondsuit$. With min and x-x-6-4 open $1\heartsuit$.

S decreases his points, if misfit is probable. With provided 8, 9 or 10-card fit, he adds 1, 2 or 3 points respectively.

Responses to 1 of a suit:

pass – 0-5 points

glued bid – 10+ points, forcing for one round, N becomes a teller and uses table 1 to describe his shape. New glued bid from S is relay and game forcing, any other rebid is natural and contract offer.

all other bids – 6-9 points, natural and limited.

Short color of N:

In the majority of cases the glued color of the opening bid is short color of N (0-3 cards). This is the reason why the forcing bid of S starts here. After $1 / \sqrt{\nabla} = 1 / \sqrt{\nabla}$ short color is $\sqrt{\nabla} / \sqrt{2}$ respectively.

	1	$1\diamondsuit$	$1\heartsuit$	1
10	4-x-4-x, 4-0-4-4			
1♠	4-x-x-4	x-4-x-4, 4-4-0-4		
1N	$5 - 3 - 3 - 3^{-}$	$3 - 5 - 3 - 3^{-}$	x-4-4-x, 4-4-4-0	
2	6-x-x-x ⁺	4-4-x-x	$3 - 3 - 5 - 3^{-}$	x-x-4-4, 0-4-4-4
$2\diamondsuit$	6-4-x-x	x-6-x-x ⁺	x-4-6-x ⁺	$3 - 3 - 3 - 5^{-}$
$2\heartsuit$	6-x-4-x ⁺	x-6-4-x	x-x-6-x ⁺	x-x-4-6 ⁺
2♠	6-x-x-4+	x-6-x-4+	x-x-6-4	x-x-x-6 ⁺
2N	$5 - 3 - 3 - 3^+$	$3 - 5 - 3 - 3^+$	$3 - 3 - 5 - 3^+$	$3 - 3 - 3 - 5^+$
3♣	8-x-x-x+	4-6-x-x ⁺	4-x-6-x ⁺	4-x-x-6 ⁺
$3\diamondsuit$		x-8-x-x ⁺	$0-6-6-0^+$	x-4-x-6 ⁺
$3\heartsuit$	$6-0-6-0^+$	$6-6-0-0^+$	x-x-8-x ⁺	$0-0-6-6^+$
3♠	6-0-0-6+	0-6-0-6+		x-x-x-8+

Table 1 Exact groups for one-level openings (in columns).

Each row defines the first answer after forcing bid from the second player. The only artificial answers are 1NT/24 after $1\heartsuit$ and $24/2\diamondsuit$ after $1\diamondsuit$.

After the second, forcing bid from S, he becomes an Asker. N divides the maximum (15-20 points) into two intervals -m=15-17p. and M=18-20p. He describes his group and strength, using levels. A list of options is explained as in the examples:

 $\begin{array}{l} \text{4-x-4-x, } 4\text{-}0\text{-}4\text{-}4 \rightarrow (4\text{-}\text{x}\text{-}\text{-}\text{, }4\text{-}0\text{-}4\text{-}^{-}\text{, }4\text{-}\text{x}\text{-}\text{+}\text{, }4\text{-}0\text{-}4\text{-}4^{+}) \\ \text{4-x-x-}4 \rightarrow (4\text{-}\text{x}\text{-}\text{x}\text{-}\text{, }4\text{-}\text{x}\text{-}\text{x}\text{-}\text{, }4\text{-}2\text{-}2\text{-}4^{+}\text{, }5\text{-}3\text{-}1\text{-}5^{+}\text{, }5\text{-}1\text{-}3\text{-}5^{+}) \\ \text{6-x-x-x}^{+} \rightarrow (6\text{-}\text{x}\text{-}\text{x}\text{-}\text{x}^{M}\text{, }6\text{-}\text{x}\text{-}\text{x}\text{-}\text{x}^{m}) \\ \rightarrow (6\text{-}\text{x}\text{-}\text{x}\text{-}\text{x}^{M}\text{, }6\text{-}2\text{-}2\text{-}2^{m}\text{, }7\text{-}3\text{-}3\text{-}1^{m}\text{, }7\text{-}3\text{-}3\text{-}\text{3}^{m}\text{, }7\text{-}1\text{-}3\text{-}3^{m}) \end{array}$

2 Weak openings

Openings from $2\clubsuit$ up to $4\spadesuit$ promises a 6+ card suit and 11-14 corrected points:

 \clubsuit , \diamondsuit , \heartsuit - 6+ suit, 0-3 cards in next color (see Table 2) \bigstar - 6+ spade: groups 4-x-x-6, x-4-x-6, x-x-x-6 NT - 6+ spade: groups x-x-4-6, 0-0-6-6 \clubsuit , \diamondsuit , \heartsuit , \bigstar - 8-x-x-x into the suit. \clubsuit , \diamondsuit , \heartsuit , \bigstar - 10-x-x-x into the suit.

Glued bid from S is forcing with 13+ points, all other responses are natural.

	2 ♣	$2\diamondsuit$	$2\heartsuit$	2♠	2NT
$2\heartsuit$	6-x-4-x				
2♠	6-x-x-4	x-6-x-4			
2N	6-x-x-x	x-6-x-x	x-x-6-x		
3♣	6-0-6-0	4-6-x-x	4-x-6-x	4-x-x-6	
$3\diamondsuit$	6-0-0-6	6-6-0-0	x-4-6-x	x-4-x-6	(x-x-4-6)
$3\heartsuit$			0-6-6-0	(x-x-x-6)	0-0-6-6
3♠		0-6-0-6			

Table 2 First answers after weak two bids. Groups in brackets are decoded at second answer.

3 Additional tables

	level 1	level 2	level 3	level 4	level 5	level 6
4-4-x-x	4-4-2-2	5 - 5 - 3 - 1	5-5-1-3			
6-4-x-x	6-4-2-0	6-4-0-2	7-5-1-1	8-4-0-0		
6-x-x-x	6-2-2-2	7-3-3-1	7-3-1-3	7-1-3-3		
8-x-x-x	8-2-2-0	8-2-0-2	8-0-2-2	9-3-1-1	9-1-3-1	9-1-1-3
10-x-x-x	10-2-0-0	10-0-2-0	10-0-0-2	11-1-1-1	12-0-0-0	
5-4-x-x	4-4-x-x	6-4-x-x	6-6-0-0			
5-x-x-x	5 - 3 - 3 - 3	6-2-2-2	7-3-3-1	7-3-1-3	7-1-3-3	

Table 3 Decoding (and encoding) distribution groups. Last two meta-groups are specific to the system.

	level 1	level 2	level 3	level 4	level 5	level 6
14	5-x-x-x	5-x-4-x	5-x-x-4	4-0-4-4	6-4-x-x	8-x-x-x+
$1\diamondsuit$	x-5-x-x	4-5-x-x	x-5-x-4	4-4-0-4	x-6-4-x	x-8-x-x+
$1\heartsuit$	x-x-5-x	x-4-5-x	4-4-4-0	x-x-6-4	4-x-6-x ⁺	x-x-8-x+
$1 \spadesuit$	x-x-x-5	x-x-4-5	0-4-4-4	4-x-x-6 ⁺	x-4-x-6 ⁺	x-x-x-8+

Table 4 Answers after $1 \clubsuit / \diamondsuit / \heartsuit / \bigstar -$ overcall up to 2NT - relay from S. The relay bid of S is the lowest bid in NT or short color of N.

After the second question from S, groups with minimum are explained first. $E\!xamples:$

 $\begin{array}{l} \textbf{x-x-4-5} \rightarrow (\textbf{x-x-4-4^-}, \, \textbf{x-x-4-4^+}, \, \textbf{x-x-4-6^+}, \, 0\text{-}0\text{-}6\text{-}6\text{+}) \\ \textbf{x-5-x-x} \rightarrow (3\text{-}5\text{-}3\text{-}3^-, \, 3\text{-}5\text{-}3\text{-}3\text{+}, \, 2\text{-}6\text{-}2\text{-}2\text{+}, \, 3\text{-}7\text{-}3\text{-}1\text{+}, \, 3\text{-}7\text{-}1\text{-}3\text{+}, \, 1\text{-}7\text{-}3\text{-}3\text{+}) \end{array}$

Overcalls:

After opponents 1♣ opening: double – same as opening 1♣

all other bids are same as the openings.

After $1\diamondsuit$ or higher opponents opening use the standard overcalls.

4 Opening 1NT

Unlimited opening bid 1NT promises 21+ points or ≤ 5 losers. This is the most complex part of the system. The player, who first make a bid in range $2\heartsuit \dots 4\spadesuit$ describes his distribution and becomes a teller.

Bids from $2\heartsuit$ to $3\clubsuit$ promises $4+ \text{ cards in } \heartsuit/\diamondsuit/\diamondsuit/\diamondsuit$ and 0-3 cards in $\diamondsuit/\diamondsuit/\And/\heartsuit$ respectively. Exact groups for bids $2\heartsuit...3\diamondsuit$ are defined in table 1NT. Meaning of the higher bids:

 $3\heartsuit$ – groups x-x-6-4, 0-0-6-6 (after relay, expand x-x-6-4 first)

3♠ – group x-4-x-6

3NT – group 6-x-x-4 (relay is $4\diamondsuit)$

 $4 \clubsuit, \diamondsuit, \heartsuit, \bigstar, -10$ -x-x-x.

Responses from S:

 $2\clubsuit - 0-5$ points, at most one control (K or singleton)

 $2\Diamond$ – forcing, S describes his shape with a bid in range $2\heartsuit \dots 4\spadesuit$. $2\heartsuit \dots 3\spadesuit$ – proposal for a score, not forcing.

 $2\Diamond - 10+$ points, N describes his shape with a bid in range $2\heartsuit \dots 4\spadesuit$. $2\heartsuit \dots 4\spadesuit - 6-9$ points and suitable distribution.

	$2\heartsuit$	2♠	2N	3♣	$3\diamondsuit$
2N	x-x-5-x				
3♣	4-x-4-x, 4-4-4-0	4-x-x-4, 4-0-4-4			
$3\diamondsuit$	x-4-4-x	x-x-x- 5_a	x-5-x-x		
$3\heartsuit$	6-x-4-x	x-x-4-4	x-4-x-4 _a	5-x-x-x _a	
3♠	4-x-6-x _a	4-x-x-6	x-6-x-4	$4-4-x-x_a$	4-6-x-x _a
3N	x-4-6-x _a	x-x-4-6 _a	0-4-4-4	6-4-x-x	$x-6-4-x_a$
4	6-0-6-0	6-0-0-6	$0-6-0-6_a$	8-x-x-x	6-6-0-0
$4\diamondsuit$	x-x-8-x _a	x-x-x- 8_a	x-8-x-x	4-4-0-4	0-6-6-0

Table 1NT The exact groups for constructive bids after 1NT (in columns).Each row defines the first answer after forcing bid from the Asker.Lower_a marks the artificial bid and must to be alerted.

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