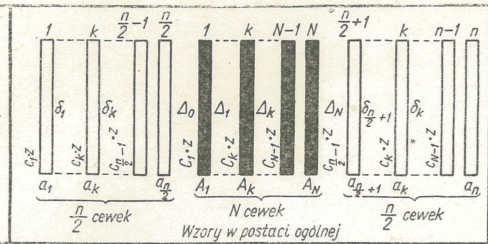
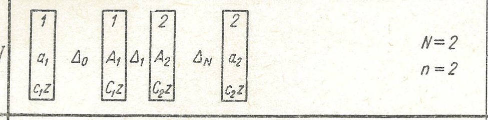
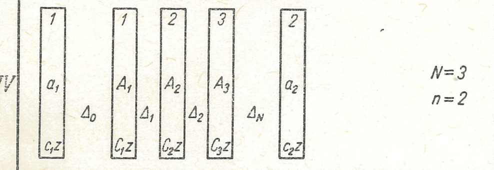
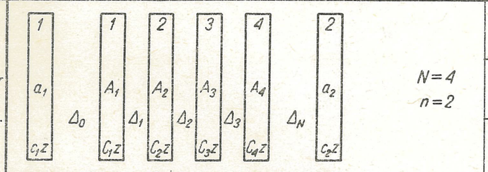
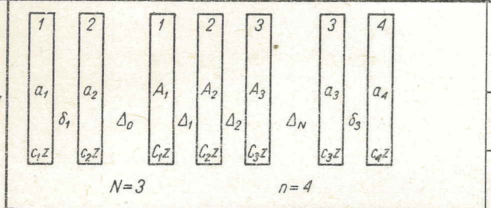
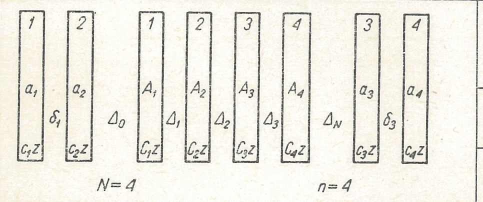
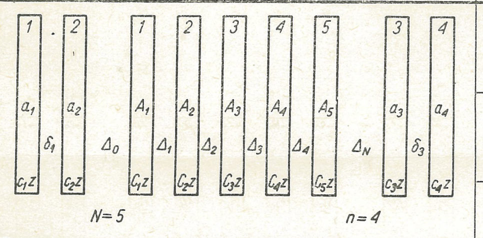
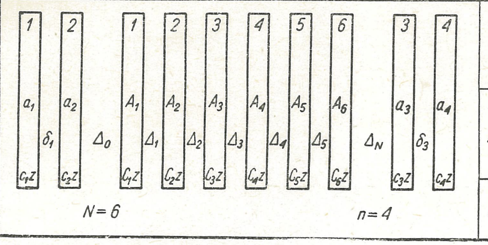
Wzory na szczeliny zastępcze częściej spotykanych symetrycznych układów cewek

I		1	$\delta' = \Delta_0\left(\sum_1^{n/2} c_i\right)^2 + \Delta_N\left(\sum_{\frac{n}{2}+1}^{n} c_i\right)^2 + \sum_{k=1}^{N-1}\Delta_k\left(\sum_1^{n/2} c_i - \sum_1^{k} C_i\right)^2 + \sum_{k=1}^{\frac{n}{2}-1}\delta_k\left(\sum_1^{k} c_i\right)^2 + \sum_{k=\frac{n}{2}+1}^{n-1}\delta_k\left(\sum_{k+1}^{n} c_i\right)^2 + \frac{1}{3}\left(\sum_{k=1}^{N} A_k C_k^2 + \sum_{k=1}^{n} a_k c_k^2\right) + \sum_{k=1}^{N} A_k\left(\sum_1^{n/2} c_i - \sum_1^{k-1} C_i\right)\left(\sum_1^{n/2} c_i - \sum_1^{k} C_i\right) + \sum_{k=1}^{n/2} a_k\left(\sum_1^{k-1} c_i \cdot \sum_1^{k} c_i\right) + \sum_{k=\frac{n}{2}+1}^{n} a_k\left(\sum_k^{n} c_i \cdot \sum_{k+1}^{n} c_i\right)$
		2	$\delta' = \frac{\Delta_0+\Delta_N}{4} + \sum_{k=1}^{N-1}\Delta_k\left(\frac{1}{2} - \sum_1^{k} C_i\right)^2 + \sum_{k=1}^{\frac{n}{2}-1}\delta_k\left(\sum_1^{k} c_i\right)^2 + \sum_{k=\frac{n}{2}+1}^{n-1}\delta_k\left(\sum_{k+1}^{n} c_i\right)^2 + \frac{1}{3}\left(\sum_{k=1}^{N} A_k C_k^2 + \sum_{k=1}^{n} a_k c_k^2\right) + \sum_{k=1}^{N} A_k\left(\frac{1}{2} - \sum_1^{k-1} C_i\right)\left(\frac{1}{2} - \sum_1^{k} C_i\right) + \sum_{k=1}^{n/2} a_k\left(\sum_1^{k-1} c_i \cdot \sum_1^{k} c_i\right) + \sum_{k=\frac{n}{2}+1}^{n} a_k\left(\sum_k^{n} c_i \cdot \sum_{k+1}^{n} c_i\right)$
		3	$\delta' = \frac{\Delta_0+\Delta_N}{4} + \sum_{k=1}^{N-1}\Delta_k\left(\frac{1}{2} - \frac{k}{N}\right)^2 + \sum_{k=1}^{\frac{n}{2}-1}\delta_k\left(\frac{k}{n}\right)^2 + \sum_{k=\frac{n}{2}+1}^{n-1}\delta_k\left(1 - \frac{k}{n}\right)^2 + \frac{1}{3}\left(\frac{1}{N^2}\sum_1^{N} A_k + \frac{1}{n^2}\sum_1^{n} a_k\right) + \sum_{k=1}^{N} A_k\left(\frac{1}{2} - \frac{k-1}{N}\right)\left(\frac{1}{2} - \frac{k}{N}\right) + \sum_{k=1}^{n/2} a_k \frac{k(k-1)}{n^2} + \sum_{k=\frac{n}{2}+1}^{n} a_k\left(1 - \frac{k}{n}\right)\left(1 - \frac{k-1}{n}\right)$
		4	$\delta' = \frac{1}{4}\left[\Delta_0 + \Delta_N + \Delta\frac{(N-1)(N-2)}{3N} + \delta\frac{(n-1)(n-2)}{3n} + \frac{AN+an}{3}\right]$
II		1	$\delta' = \Delta_0 c_1^2 + \Delta_N c_2^2 + \frac{A + a_1 c_1^2 + a_2 c_2^2}{3} - c_1 c_2 A$
		2	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{A + a_1 + a_2}{3}\right)$
		3	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{A + a_1 + a_2}{3}\right)$
		4	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{A + 2a}{3}\right)$
III		1	$\delta' = \Delta_0 c_1^2 + \Delta_N c_2^2 + \Delta_1(c_1 - C_1)^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + a_1 c_1^2 + a_2 c_2^2) + (c_1 - C_1)(A_1 c_1 - A_2 c_2)$
		2	$\delta' = \frac{\Delta_0+\Delta_N}{4} + \Delta_1\left(\frac{1}{2} - C_1\right)^2 + \frac{1}{3}\left(A_1 C_1^2 + A_2 C_2^2 + \frac{a_1 + a_2}{4}\right) + \frac{1}{2}\left(\frac{1}{2} - C_1\right)(A_1 - A_2)$
		3	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{A_1 + A_2 + a_1 + a_2}{3}\right)$
		4	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{2A + 2a}{3}\right)$
IV		1	$\delta' = \Delta_0 c_1^2 + \Delta_N c_2^2 + \Delta_1(c_1 - C_1)^2 + \Delta_2(C_3 - c_2)^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + a_1 c_1^2 + a_2 c_2^2) + A_1 c_1(c_1 - C_1) + A_2(c_1 - C_1)(C_3 - c_2) - A_3(C_3 - c_2)c_2$
		2	$\delta' = \frac{\Delta_0+\Delta_N}{4} + \Delta_1\left(\frac{1}{2} - C_1\right)^2 + \Delta_2\left(C_3 - \frac{1}{2}\right)^2 + \frac{1}{3}\left(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + \frac{a_1 + a_2}{4}\right) + A_1\frac{1}{2}\left(\frac{1}{2} - C_1\right) + A_2\left(\frac{1}{2} - C_1\right)\left(C_3 - \frac{1}{2}\right) - A_3\left(C_3 - \frac{1}{2}\right)\frac{1}{2}$
		3	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{\Delta_1 + \Delta_2}{9} + \frac{13A_1 + A_2 + 13A_3}{3 \cdot 9} + \frac{a_1 + a_2}{3}\right)$
		4	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{2\Delta}{9} + \frac{3A + 2a}{3}\right)$
V		1	$\delta' = \Delta_0 c_1^2 + \Delta_N c_2^2 + \Delta_1(c_1 - C_1)^2 + \Delta_2[c_1 - (C_1 + C_2)]^2 + \Delta_3(C_4 - c_2)^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + A_4 C_4^2 + a_1 c_1^2 + a_2 c_2^2) + A_1 c_1(c_1 - C_1) + A_2(c_1 - C_1)[c_1 - (C_1 + C_2)] + A_3[c_1 - (C_1 + C_2)](C_4 - c_2) - A_4(C_4 - c_2)c_2$
		2	$\delta' = \frac{\Delta_0+\Delta_N}{4} + \Delta_1\left(\frac{1}{2} - C_1\right)^2 + \Delta_2\left[\frac{1}{2} - (C_1 + C_2)\right]^2 + \Delta_3\left(C_4 - \frac{1}{2}\right)^2 + \frac{1}{3}\left(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + A_4 C_4^2 + \frac{a_1 + a_2}{4}\right) + A_1\frac{1}{2}\left(\frac{1}{2} - C_1\right) + A_2\left(\frac{1}{2} - C_1\right)\left[\frac{1}{2} - (C_1 + C_2)\right] + A_3\left[\frac{1}{2} - (C_1 + C_2)\right]\left(C_4 - \frac{1}{2}\right) - A_4\left(C_4 - \frac{1}{2}\right)\frac{1}{2}$
		3	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{\Delta_1 + \Delta_3}{4} + \frac{7A_1 + A_2 + A_3 + 7A_4}{3 \cdot 4} + \frac{a_1 + a_2}{3}\right)$
		4	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{\Delta}{2} + \frac{4A + 2a}{3}\right)$
VI		1	$\delta' = \Delta_0(c_1 + c_2)^2 + \Delta_N(c_3 + c_4)^2 + \Delta_1[(c_1 + c_2) - C_1]^2 + \Delta_2[C_3 - (c_3 + c_4)]^2 + \delta_1 c_1^2 + \delta_3 c_4^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + a_1 c_1^2 + a_2 c_2^2 + a_3 c_3^2 + a_4 c_4^2) + A_1(c_1 + c_2)[(c_1 + c_2) - C_1] + A_2[(c_1 + c_2) - C_1][C_3 - (c_3 + c_4)] +$ $- A_3[C_3 - (c_3 + c_4)](c_3 + c_4) + a_2 c_1(c_1 + c_2) + a_3(c_3 + c_4)c_4$
		2	$\delta' = \frac{\Delta_0+\Delta_N}{4} + \Delta_1\left(\frac{1}{2} - C_1\right)^2 + \Delta_2\left(C_3 - \frac{1}{2}\right)^2 + \delta_1 c_1^2 + \delta_3 c_4^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + a_1 c_1^2 + a_2 c_2^2 + a_3 c_3^2 + a_4 c_4^2) + A_1\frac{1}{2}\left(\frac{1}{2} - C_1\right) + A_2\left(\frac{1}{2} - C_1\right)\left(C_3 - \frac{1}{2}\right) - A_3\left(C_3 - \frac{1}{2}\right)\frac{1}{2} + a_1 c_1\frac{1}{2} + a_3\frac{1}{2}c_4$
		3	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{\Delta_1 + \Delta_2}{9} + \frac{\delta_1 + \delta_3}{4} + \frac{13A_1 + A_2 + 13A_3}{3 \cdot 9} + \frac{a_1 + 7a_2 + 7a_3 + a_4}{3 \cdot 4}\right)$
		4	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{2\Delta}{9} + \frac{\delta}{2} + \frac{3A + 4a}{3}\right)$
VII		1	$\delta' = \Delta_0(c_1 + c_2)^2 + \Delta_N(c_3 + c_4)^2 + \Delta_1[(c_1 + c_2) - C_1]^2 + \Delta_2[(c_1 + c_2) - (C_1 + C_2)]^2 + \Delta_3[C_4 - (c_3 + c_4)]^2 + \delta_1 c_1^2 + \delta_3 c_4^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + A_4 C_4^2 + a_1 c_1^2 + a_2 c_2^2 + a_3 c_3^2 + a_4 c_4^2) + A_1(c_1 + c_2)[(c_1 + c_2) - C_1] +$ $+ A_2[(c_1 + c_2) - C_1][(c_1 + c_2) - (C_1 + C_2)] + A_3[(c_1 + c_2) - (C_1 + C_2)][C_4 - (c_3 + c_4)] - A_4[C_4 - (c_3 + c_4)](c_3 + c_4) + a_2 c_1(c_1 + c_2) + a_3(c_3 + c_4)c_4$
		2	$\delta' = \frac{\Delta_0+\Delta_N}{4} + \Delta_1\left(\frac{1}{2} - C_1\right)^2 + \Delta_2\left[\frac{1}{2} - (C_1 + C_2)\right]^2 + \Delta_3\left(C_4 - \frac{1}{2}\right)^2 + \delta_1 c_1^2 + \delta_3 c_4^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + A_4 C_4^2 + a_1 c_1^2 + a_2 c_2^2 + a_3 c_3^2 + a_4 c_4^2) + A_1\frac{1}{2}\left(\frac{1}{2} - C_1\right) + A_2\left(\frac{1}{2} - C_1\right)\left[\frac{1}{2} - (C_1 + C_2)\right] + A_3\left[\frac{1}{2} - (C_1 + C_2)\right]\left(C_4 - \frac{1}{2}\right) - A_4\left(C_4 - \frac{1}{2}\right)\frac{1}{2} + \frac{1}{2}(a_2 c_1 + a_3 c_4)$
		3	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{\Delta_1 + \Delta_3}{4} + \frac{\delta_1 + \delta_3}{4} + \frac{7A_1 + A_2 + A_3 + 7A_4}{3 \cdot 4} + \frac{a_1 + 7a_2 + 7a_3 + a_4}{3 \cdot 4}\right)$
		4	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{\Delta + \delta}{2} + \frac{4A + 4a}{3}\right)$
VIII		1	$\delta' = \Delta_0(c_1 + c_2)^2 + \Delta_N(c_3 + c_4)^2 + \Delta_1[(c_1 + c_2) - C_1]^2 + \Delta_2[(c_1 + c_2) - (C_1 + C_2)]^2 + \Delta_3[(C_4 + C_5) - (c_3 + c_4)]^2 + \Delta_4[C_5 - (c_3 + c_4)]^2 + \delta_1 c_1^2 + \delta_3 c_4^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + A_4 C_4^2 + A_5 C_5^2 + a_1 c_1^2 + a_2 c_2^2 + a_3 c_3^2 + a_4 c_4^2) + A_1(c_1 + c_2)[(c_1 + c_2) - C_1] +$ $+ A_2[(c_1 + c_2) - C_1][(c_1 + c_2) - (C_1 + C_2)] + A_3[(c_1 + c_2) - (C_1 + C_2)][(C_4 + C_5) - (c_3 + c_4)] + A_4[(C_4 + C_5) - (c_3 + c_4)][C_5 - (c_3 + c_4)] - A_5[C_5 - (c_3 + c_4)](c_3 + c_4) + a_2 c_1(c_1 + c_2) + a_3(c_3 + c_4)c_4$
		2	$\delta' = \frac{\Delta_0+\Delta_N}{4} + \Delta_1\left(\frac{1}{2} - C_1\right)^2 + \Delta_2\left[\frac{1}{2} - (C_1 + C_2)\right]^2 + \Delta_3\left[(C_4 + C_5) - \frac{1}{2}\right]^2 + \Delta_4\left(C_5 - \frac{1}{2}\right)^2 + \delta_1 c_1^2 + \delta_3 c_4^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + A_4 C_4^2 + A_5 C_5^2 + a_1 c_1^2 + a_2 c_2^2 + a_3 c_3^2 + a_4 c_4^2) + A_1\frac{1}{2}\left(\frac{1}{2} - C_1\right) + A_2\left(\frac{1}{2} - C_1\right)\left[\frac{1}{2} - (C_1 + C_2)\right] +$ $+ A_3\left[\frac{1}{2} - (C_1 + C_2)\right]\left[(C_4 + C_5) - \frac{1}{2}\right] + A_4\left[(C_4 + C_5) - \frac{1}{2}\right]\left(C_5 - \frac{1}{2}\right) - A_5\left(C_5 - \frac{1}{2}\right)\frac{1}{2} + a_2\frac{1}{2}c_1 + a_3\frac{1}{2}c_4$
		3	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{9\Delta_1 + \Delta_2 + \Delta_3 + 9\Delta_4}{25} + \frac{\delta_1 + \delta_3}{4} + \frac{49A_1 + 13A_2 + A_3 + 13A_4 + 49A_5}{3 \cdot 25} + \frac{a_1 + 7a_2 + 7a_3 + a_4}{3 \cdot 4}\right)$
		4	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{4\Delta}{5} + \frac{\delta}{2} + \frac{5A + 4A}{3}\right)$
IX		1	$\delta' = \Delta_0(c_1 + c_2)^2 + \Delta_N(c_3 + c_4)^2 + \Delta_1[(c_1 + c_2) - C_1]^2 + \Delta_2[(c_1 + c_2) - (C_1 + C_2)]^2 + \Delta_3[(c_1 + c_2) - (C_1 + C_2 + C_3)]^2 + \Delta_4[(C_5 + C_6) - (c_3 + c_4)]^2 + \Delta_5[C_6 - (c_3 + c_4)]^2 + \delta_1 c_1^2 + \delta_3 c_4^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + A_4 C_4^2 + A_5 C_5^2 + A_6 C_6^2 + a_1 c_1^2 + a_2 c_2^2 + a_3 c_3^2 + a_4 c_4^2) + A_1(c_1 + c_2)[(c_1 + c_2) - C_1] +$ $+ A_2[(c_1 + c_2) - C_1][(c_1 + c_2) - (C_1 + C_2)] + A_3[(c_1 + c_2) - (C_1 + C_2)][(c_1 + c_2) - (C_1 + C_2 + C_3)] + A_4[(c_1 + c_2) - (C_1 + C_2 + C_3)][(C_5 + C_6) - (c_3 + c_4)] + A_5[(C_5 + C_6) - (c_3 + c_4)][C_6 - (c_3 + c_4)] - A_6[C_6 - (c_3 + c_4)](c_3 + c_4) + a_2 c_1(c_1 + c_2) + a_3(c_3 + c_4)c_4$
		2	$\delta' = \frac{\Delta_0+\Delta_N}{4} + \Delta_1\left(\frac{1}{2} - C_1\right)^2 + \Delta_2\left[\frac{1}{2} - (C_1 + C_2)\right]^2 + \Delta_3\left[\frac{1}{2} - (C_1 + C_2 + C_3)\right]^2 + \Delta_4\left[(C_5 + C_6) - \frac{1}{2}\right]^2 + \Delta_5\left(C_6 - \frac{1}{2}\right)^2 + \delta_1 c_1^2 + \delta_3 c_4^2 + \frac{1}{3}(A_1 C_1^2 + A_2 C_2^2 + A_3 C_3^2 + A_4 C_4^2 + A_5 C_5^2 + A_6 C_6^2 + a_1 c_1^2 + a_2 c_2^2 + a_3 c_3^2 + a_4 c_4^2) + A_1\frac{1}{2}\left(\frac{1}{2} - C_1\right) + A_2\left(\frac{1}{2} - C_1\right)\left[\frac{1}{2} - (C_1 + C_2)\right] +$ $+ A_3\left[\frac{1}{2} - (C_1 + C_2)\right]\left[\frac{1}{2} - (C_1 + C_2 + C_3)\right] + A_4\left[\frac{1}{2} - (C_1 + C_2 + C_3)\right]\left[(C_5 + C_6) - \frac{1}{2}\right] + A_5\left[(C_5 + C_6) - \frac{1}{2}\right]\left(C_6 - \frac{1}{2}\right) - A_6\left(C_6 - \frac{1}{2}\right)\frac{1}{2} + a_2\frac{1}{2}c_1 + a_3\frac{1}{2}c_4$
		3	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{4\Delta_1 + \Delta_2 + \Delta_4 + 4\Delta_5}{9} + \frac{\delta_1 + \delta_3}{4} + \frac{19A_1 + 7A_2 + A_3 + A_4 + 7A_5 + 19A_6}{3 \cdot 9} + \frac{a_1 + 7a_2 + 7a_3 + a_4}{3 \cdot 4}\right)$
		4	$\delta' = \frac{1}{4}\left(\Delta_0 + \Delta_N + \frac{10\Delta}{9} + \frac{\delta}{2} + \frac{6A + 4a}{3}\right)$