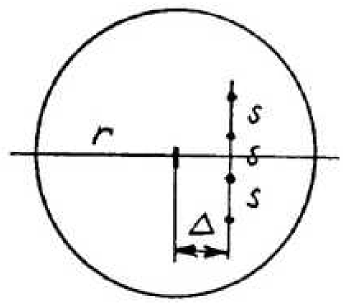
I.3) Probe Array Perpendicular to a Diameter.



thickness $t < \frac{s}{2}$

Swartzendruber (j) published the geometric factor for this geometri:

$$\rho = G\,\frac{V}{I}, \qquad G = \frac{\pi}{\ln 2}\cdot t\cdot C_2\left(\frac{s}{d},\frac{\Delta}{d}\right) \tag{22}$$

where:

$$C_2\left(\frac{s}{d},\frac{\Delta}{d}\right) = \frac{1}{1+\frac{1}{2\ln 2}\ln\frac{\alpha_1\alpha_2}{4\alpha_3\alpha_4}} \tag{23}$$

$$\alpha_1 = (V_2 - V_1)^2 + (U_2 + U_1)^2$$

$$\alpha_2 = (V_2 + V_1)^2 + (U_2 + U_1)^2$$

$$\alpha_3 = (V_2 - V_1)^2 + (U_2 - U_1)^2$$

$$\alpha_4 = (V_2 + V_1)^2 + (U_2 - U_1)^2$$

$$U_1 = \frac{3\frac{s}{r}}{(1+\frac{\Delta}{r})^2 + \frac{9}{4}(\frac{s}{r})^2}$$

$$U_2 = \frac{\frac{s}{r}}{(1+\frac{\Delta}{r})^2 + \frac{1}{4}(\frac{s}{r})^2}$$

$$V_1 = \frac{1 - (\frac{\Delta}{r})^2 - \frac{9}{4}(\frac{s}{r})^2}{(1+\frac{\Delta}{r})^2 + \frac{9}{4}(\frac{s}{r})^2}$$

$$V_2 = \frac{1 - (\frac{\Delta}{r})^2 - \frac{1}{4}(\frac{s}{r})^2}{(1+\frac{\Delta}{r})^2 + \frac{1}{4}(\frac{s}{r})^2}$$