HS2 1. Übungsblatt

A3a) $E_{\max} = 86,38 \frac{kV}{cm}$

A3b) $\text{Allg.}: r_j^2 = x_{mj}^2 - \left(\frac{d}{2}\right)^2$ (*); $\quad Hier: x_{m1} - x_{m2} = ex \Rightarrow x_{m2} = x_{m1} + ex$ (**)

mit Hilfe (*): $r_2^2 - r_1^2 = x_{m2}^2 - x_{m1}^2$; *wobei nun* x_{m2} *über* (**) *ersetzbar*

$x_{m1} = .. = 11,1cm; \quad x_{m2} = .. = 11,4cm; \quad \frac{d}{2} = 11,0cm$

$r_{+1} = r_1 - (x_{m1} - \frac{d}{2}) = 1,4cm$ *damit* $r_{-1} = 2 \cdot \frac{d}{2} - r_{+1} = 20,6cm \Rightarrow c_1 = 14,72$

$r_{+2} = .. = 2,6cm$ *damit* $r_{-2} = .. = 19,4cm \Rightarrow c_2 = 7,462$

$E_{\max} = ... = 100,85 \, kV/cm$