

Da lepše vidimo, kaj počnemo, se vrnimo raje k delnim integralom in jih razvijemo:

$$\begin{aligned}
\oint \langle f_{\text{out},r} \rangle u_r dA_{\text{out}} &= \frac{2\pi}{15} E_0^2 r_{\text{out}}^2 s_2 \frac{\epsilon_m + (\epsilon_m - 2e_w) |\beta|^2}{|\beta|^2} \\
&\quad - \frac{4\pi}{45} E_0^2 r_{\text{out}}^2 s_2 \frac{(-2\epsilon_m + (\epsilon_m + \epsilon_w) |\beta|^2) ((2|\beta|^2 - 1) \text{Re } \beta - |\beta|^2)}{|\beta|^4} (1 - \gamma) \\
&\quad + O(1 - \gamma)^2, \\
\oint \langle f_{\text{out},\theta} \rangle u_\theta dA_{\text{out}} &= -\frac{4\pi}{15} E_0^2 r_{\text{out}}^2 s_2 \frac{\epsilon_w |\beta|^2 - \epsilon_m \text{Re } \beta}{|\beta|^2} \\
&\quad - \frac{4\pi}{45} E_0^2 r_{\text{out}}^2 s_2 \left[- (6\epsilon_m + \epsilon_w) |\beta|^4 + 4\epsilon_m (1 + |\beta|^2) \text{Re } \beta^2 - 3\epsilon_m |\beta|^2 \right. \\
&\quad \quad \left. + (\epsilon_m - \epsilon_w) |\beta|^2 \text{Re } \beta + 2\epsilon_w |\beta|^4 \text{Re } \beta \right] (1 - \gamma) + O(1 - \gamma)^2, \\
\oint \langle f_{\text{in},r} \rangle u_r dA_{\text{in}} &= -\frac{2\pi}{15} E_0^2 r_{\text{out}}^2 s_2 \frac{\epsilon_m + (\epsilon_m - 2e_w) |\beta|^2}{|\beta|^2} \\
&\quad + \frac{2\pi}{45} E_0^2 r_{\text{out}}^2 s_2 \frac{(\epsilon_m + (\epsilon_m - 2\epsilon_w) |\beta|^2) (-2|\beta|^2 + 4(1 + |\beta|^2) \text{Re } \beta)}{|\beta|^4} (1 - \gamma) \\
&\quad + O(1 - \gamma)^2, \\
\oint \langle f_{\text{in},\theta} \rangle u_\theta dA_{\text{in}} &= \frac{4\pi}{15} E_0^2 r_{\text{out}}^2 s_2 \frac{\epsilon_w |\beta|^2 - \epsilon_m \text{Re } \beta}{|\beta|^2} \\
&\quad - \frac{4\pi}{45} E_0^2 r_{\text{out}}^2 s_2 \frac{(\epsilon_m + (\epsilon_m - 2\epsilon_w) |\beta|^2) (-2|\beta|^2 + 4(1 + |\beta|^2) \text{Re } \beta)}{|\beta|^4} (1 - \gamma) \\
&\quad + O(1 - \gamma)^2.
\end{aligned}$$

Vidimo, da se prosti členi pri radialnih in tangencialnih komponentah paroma izničijo, tako da v vsoti preostanejo samo členi, sorazmerni $(1 - \gamma)$.

Po nekaj preurejanja dobimo izraz

$$\langle G_{\text{field}} \rangle = \frac{8\pi}{15} E_0^2 r_{\text{out}}^2 s_2 \frac{(\epsilon_m + \epsilon_w) |\beta|^2 + (\epsilon_m - \epsilon_w - 2\epsilon_w |\beta|^2 \text{Re } \beta)}{|\beta|^2} (1 - \gamma). \quad (2.1)$$

Člene, sorazmerne $O(1 - \gamma)^2$ in višjim redom smo v njem že zavrgli.