BY GIMUSI 12/06/15

$\vec{E} = (x, xy, -xz)$ $\quad S: z - y^2 = 1$, $\Omega: x^2 + y^2 \le 1$

$\Phi = (x, y, 1 + y^2)$

$$\begin{matrix} \Phi_x \\ \Phi_y \end{matrix} \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 2y \end{pmatrix} \rightsquigarrow \quad M_1 = 0 \quad M_2 = -2y \quad M_3 = 1$$

$\vec{n}$ ORIENTATO SECONDO z^+

$$\int_S \vec{E} \cdot \vec{n} \, d\sigma = \int_\Omega [0 \cdot x + (-2y) \cdot xy + 1 \cdot (-x)(1 + y^2)] \, dx\,dy =$$

$$= \int_\Omega -2xy^2 - x - xy^2 \, dx\,dy = -\int_\Omega (x + 3xy^2) \, dx\,dy = 0$$