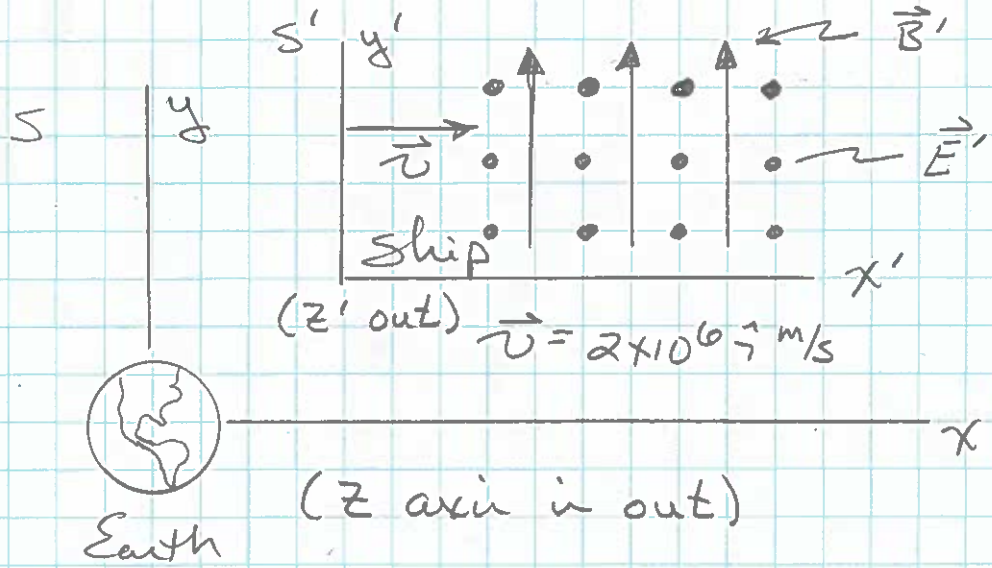

On frame S' (ship): $\vec{E}' = 1\times10^6\,\hat{k}\ \frac{V}{m}$

$\vec{B}' = 1.0\,\hat{j}$ T

So, the fields observed in S:

$$\vec{E} = \vec{E}' - \vec{v}\times\vec{B}'$$

$$= (1\times10^6\,\hat{k}) - (v B'\,\hat{k})$$

$$= (1\times10^6\,\hat{k}) - (2\times10^6\,\hat{k})$$

$$\underline{\vec{E} = -1.0\times10^6\,\hat{k}\ \text{V/m}}$$

$$\vec{B} = \vec{B}' + \varepsilon_0\mu_0\,\vec{v}\times\vec{E}'$$

$$= (1.0\,\hat{j}) + \varepsilon_0\mu_0(-vE'\,\hat{j})$$

$$\underline{\vec{B} = 0.99998\,\hat{j}\ \text{T}}$$