

# Problem of Section 2

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## Prob 1.

In K frame the Electromagnetic Field Tensor is defined as:  $F_{ij} = \partial_i A_j - \partial_j A_i$  ( $i, j = 0, 1, 2, 3$ ).  
If K' frame is boosted with velocity  $\vec{v} = v\hat{x}$  w.r.t. K frame. Find out how the each element of  $F'_{ij}$  ( Tensor in K's frame ) transforms? Express your answer in terms of  $F_{\alpha\beta}$ ,  $v$  and  $\gamma$ .