A SIMULATION OF PROTOSTELLAR FLARES WITH NON-THERMAL ELECTRONS .

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In young stellar flares, the magnetic structure is now under a debate. Montmerle et al. (2000) suggested that the star-disk interaction via magnetic field is a promising model, while there are some observations against it. In order to make clear whether the star-disk interaction is really occurring, we need to find the evidence of the disk in these flares. For this purpose, we performed numerical simulations of young stellar flares with non-thermal electrons under the basis of the model. We found that radiation geometry is separated due to the disk and that non-thermal excess X-ray SED is expected in a remarkable case. We conclude that the comparison between our model and future hard X-ray observations would reveal the existence of the disk.