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Solar flare parameters versus flare size

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Non-thermal and thermal parameters of 86 flares of GOES class B1 to M9 (background subtracted classes A1 to M9) have been compared to each other. The hard X-ray flux has been measured by RHESSI and a spectral fitting provided flux and spectral index of the non-thermal emission, as well as temperature and emission measure of the thermal emission. The soft X-ray flux was taken from GOES measurements. We find a linear correlation in a double logarithmic plot between the non-thermal flux and the spectral index. The relation is similar to the one found by a comparison of the same parameters from several sub-peaks of one single flare. Thus small flares are like small subpeaks of large flares. Thermal flare properties such as temperature, emission measure and the soft X-ray flux also correlate with peak non-thermal flux. A large non-thermal peak flux entails an enhancement in all thermal parameters.