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A Study of Preflare X-Ray Brightenings

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We present the results of a study of the characteristics of preflare brightenings. Previous work has indicated that the incidence of significant X-ray brightening in coronal magnetic structures before they flare is rather low ($\leq 25\%$), and that these brightenings do not occur at high altitudes relative to the flare. In an attempt to extend our knowledge of this phenomenon we studied 32 flares using Yohkoh data. For 7 of the events preflare X-ray brightening was observed several minutes before the subsequent flare, and in probably same magnetic loops. However, for the remaining 25 flares we found no clear evidence of an X-ray bright precursor/preflare phase in the same magnetic structure as the subsequent flaring. We report on the physical characteristics of the preflare brightenings we observed and discuss the implications of our results for current ideas about flare energy release.