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Intrinsic Instability of Coronal Streamers: Periodic Releases of Plasma Blobs

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Previous studies with SOHO/LASCO data revealed interesting results about the periodic releases of plasma blobs atop of quiescent streamers near solar minimum. The blobs are observed to be weak density enhancements as radially-stretched structures with an occurrence rate of about 4 per day from the 19th to 27th in the April of 1997. To provide more observational examples and a physical interpretation to the periodic blob releases, we conduct an observational survey of the LASCO data in 2007 and a numerical modeling of the streamer-blob dynamics. We find more observational examples of the periodic blob releases lasting for 3-4 days with similar daily occurrence rate as that found in previous studies. We also propose a novel physical mechanism to interpret the periodicity of blob releases, which is termed as the intrinsic instability of coronal streamers. More details of our observations and theories will be presented in the talk (see also, Chen et al., ApJ, the 2009 Feb issue).