Quasi-Periodic Pulsations During the impulsive phase of a C1.8 Confined Flare

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Introduction

Quasi-Periodic Pulsations (QPPs):
- Variations in flux over time.
- Observed in nearly all phases of the flare.
- Characteristic in the radio and hard X-ray bands.
- Typically observed during the impulsive phase of flares.

OBSERVATIONS

Radio Sources:
- QPPs are observed in nearly all phases from VLA (Figure 1).
- For several strong pulsations, some weak pulsations and fine bursts are also detected.
- We observed QPPs from different radio sources, as shown in Figure 2.
- Polarized radio emissions are characterized by linear polarization (LCP).
- We have determined a highly possible correlation between different radio emissions and the associated X-ray emissions.
- The radio emissions are correlated with the X-ray emissions, which is expected.

Radio Source I: Strong QPPs
- We present a schematic diagram in Figure 13. For radio sources II, III, and IV, it is likely consistent with the CSHKP flare model. Magnetic reconnection occurs, describes the loop and two magnetic footpoints, which is consistent with the CSHKP flare model. The radio emissions are correlated with the X-ray emissions, which is expected.
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Radio Source II, III, and IV: Weak QPPs
- We present a schematic diagram in Figure 13. For radio sources II, III, and IV, it is likely consistent with the CSHKP flare model. Magnetic reconnection occurs, describes the loop and two magnetic footpoints, which is consistent with the CSHKP flare model. The radio emissions are correlated with the X-ray emissions, which is expected.
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DISCUSSION/Future Plans

- In previous sections, we showed the characteristics of different radio emissions and their use in the extrapolation of magnetic fields. We briefly discussed the mechanisms for each source.
- We showed a schematic diagram in Figure 13. For radio sources II, III, and IV, it is likely consistent with the CSHKP flare model. Magnetic reconnection occurs, describes the loop and two magnetic footpoints, which is consistent with the CSHKP flare model. The radio emissions are correlated with the X-ray emissions, which is expected.

REFERENCES


Keywords: Quasi-Periodic Pulsations, C1.8 Confined Flare, Radio Emissions, X-Ray Emissions, Magnetic Reconnection.

Acknowledgments: This work was supported by the National Science Foundation under grant AGS-1707812.