# Source characteristics and radiation mechanism of Jovian anomalous continuum

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We investigate the characteristics of the Jovian Anomalous Continuum (JAC) in interplanetary space, using the Ulysses observation. Some new source characteristics of JAC have been obtained in addition to previous works [e.g. Kaiser, 1998]. JAC tends to occur when the solar wind dynamic pressure decreases after the rapid increase. We confirm and more concretely show than has been done in previous analyses that the commencement of JAC has significant universal time dependence, that is, JAC appearance is most likely when the System III longitude of the sub-solar point is near 280 degree. The periodic appearance of JAC is not due to the intensity modulation of JAC itself but the repeated individual excitation of JAC. JAC showed an abrupt amplitude change across the bow shock, strongly suggesting mode conversion from quasi-electrostatic to electromagnetic waves at the boundary. We then evaluate the possible sources of JAC, and propose a scenario for the radiation mechanism. We suggest that the origin of JAC is Langmuir waves excited at the magnetopause by energetic particles such as QP bursts ejected from the polar magnetosphere. After the propagation in the magnetosheath along the ambient magnetic field, the waves are converted to electromagnetic radio waves at the bow shock. The electromagnetic waves are interplanetary JAC which exhibit the long-lasting and frequency-drifting characteristics. The relation of the solar wind variations to the magnetospheric disturbances are also discussed concerning the generation of JAC.