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Psaltis, Lamb, & Miller X-Ray Spectra of Z Sources

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X-Ray Spectra of Z Sources *.5cm

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*0.3cm abstract A simple, physically consistent model has been proposed that seeks to explain in a unified way the X-ray spectra and rapid X-ray variability of the so-called Z sources and other accreting neutron stars in low-mass systems. Here we summarize the results of detailed numerical calculations of the X-ray spectra of the Z sources predicted by this model. Our computations show that in the Z sources, photons are produced primarily by electron cyclotron emission in the neutron star magnetosphere. Comptonization of these photons by the hot central corona and radial inflow produces X-ray spectra, color-color tracks, and countrate variations like those observed in the Z sources.