Imaging coherent backscatter radar observations of equatorial F-region irregularities in Brazil

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In 2005, the 30 MHz coherent backscatter radar in São Luís, Brazil was upgraded and two antenna modules were added to the existing system. The current set of 4 antenna modules makes possible the construction of interferometric radar images of equatorial scattering layers. We will be describing the system, the inversion technique used to construct the radar images, and presenting first results of bottom-type and bottomside scattering layers images obtained with this radar. The results indicate that the wide field-of-view of this radar is well suited for studies of F-region irregularities and that it might provide a helpful diagnostic for the forecast of equatorial spread-F.