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X-ray emission maps in the MST reversed field pinch P. FRANZ, F. BONOMO, G. SPIZZO, Consorzio RFX - Padova, Italy, B.E. CHAPMAN, J.A. GOETZ, University of Wisconsin - Madison — We present two-dimensional images of the soft x-ray (SXR) emissivity distributions in the core of the MST reversed field pinch plasma. The measurements have been obtained with the SXR tomographic diagnostic comprised of four cameras (each with a multichannel photodiode array) viewing the plasma at different poloidal angles, with a total of 74 channels. An overview of results obtained in enhanced confinement plasmas (PPCD experiments) will be shown. Individual islands and helical structures can be resolved by the high spatial resolution of the diagnostic, and their time evolution can be followed thanks to the high time resolution of the electronics. The measurements have been performed exploring various SXR energy ranges by alternatively changing the beryllium foils thicknesses in the photocameras. Examples of SXR distributions with the same filter thickness in all the four probes will be presented and will be analyzed together with those measured with different foils for each camera. When the SXR emissivity is measured with only two filters in the same shot a 2-D estimate of the electron temperature in the plasma core can be obtained by using the standard two-foil technique. Some initial results on T_e calculations will be shown.

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