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**Initial Tile Temperature and Heat Flux Measurements in NSTX** R. Maingi,\* H. W. Kugel, A. L. Roquemore, C. J. Lasnier,\*\* D. J. Johnson, and the NSTX Team – Due to their compact nature, spherical tori are projected to experience higher peak heat flux than conventional aspect ratio tokamaks of comparable heating power. For NSTX, it has been predicted[1,2] that the peak heat flux in double-null divertor configuration could reach between 10-15 MW/m<sup>2</sup>, and single-null operation would result in even higher peak heat flux. To test these predictions and support physics operations, two infrared television cameras (Inframetrics 525) have been installed on NSTX to monitor real-time tile heating and surface heat flux. The data are analyzed in real-time with a frame grabber (IMAXX) and software, and these data are also archived on videotape for future analysis. The first set of measurements will focus on thermal emission from the RF antenna, the center stack, and divertor regions. Initial data and comparison with the earlier predictions will be presented.

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1. R. Maingi, et. al., “Estimates of Scrape-Off Layer and Divertor Parameters in NSTX”, Proc. 1996 Int’l Workshop on the Spherical Torus, Abingdon, U.K., Dec. 4-6, 1996.

2. R. Maingi, et. al., “2-D Edge Plasma Transport Calculations for NSTX”, Proc. 1997 Int’l Workshop on the Spherical Torus, St. Petersburg, Russia, Sept. 3-5, 1997.

Prefer Oral Session

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