Abstract Submitted
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H-1NF: The Australian National Plasma Fusion Facility: Results and Upgrade Plans B.D. BLACKWELL, Australian National University, J. HOWARD, M.J. HOLE, D.G. PRETTY, J.W. READ, H. PUNZMANN, S.T.A. KUMAR, M. MCGANN, R.L. DEWAR, Australian National University, C.A. NUEHRENBERG, Max-Planck-Institut fur Plasmaphysik, Greifswald — The H-1 National Plasma Fusion Research Facility will be upgraded to support the development of world-class diagnostic systems for application to international facilities in preparation for ITER. The upgrade will include new heating systems and deliver access to new magnetic configurations relevant to development of edge and divertor plasma diagnostics for next generation devices. The Facility plan will be presented, including target parameters and configurations, modelling results and the relation to the strategic plan for Australian fusion research, developed by the Australian ITER Forum. New results from some of the optical imaging and magnetic diagnostics underpinning the upgrade plans will be presented, including a new method of coherence imaging of ion temperatures and flows. Synchronous imaging of MHD mode structure using fast optical emission imaging promises to supplement data from two poloidal arrays of Mirnov coils and a precision step-scanned interferometer to provide detailed information about radial and toroidal mode structure. Comparisons with theory will include a CAS3D study.

Robert Dewar
Australian National University

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