

Abstract Submitted  
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**Extensions to DG, a Graphical Tool for Editing 2D Edge Plasma Quasi-Orthogonal Computational Meshes**<sup>1</sup> A.Y. CHIN, D.P. STOTLER, PPPL — DG is a tool used, in combination with mesh generating codes such as Carre and Sonnet, to create and modify “structured curvilinear quasi-orthogonal meshes”<sup>2</sup> for use in modeling plasma and neutral transport in the boundary of tokamak magnetic confinement experiments. DG has already been used to define the geometry used by the B2-Eirene code in simulating the neutral transport behavior in the ITER divertor<sup>3</sup>. Another recent application is DEGAS 2 modeling of Gas Puff Imaging experiments on the National Spherical Torus eXperiment<sup>4</sup>. We describe how we brought DG into compatibility with the freely available Open Motif 2.x library, allowing it to be run reliably on the LINUX cluster at PPPL. In addition, several new features added to DG are presented. Together, these improvements allow precisely tailored and general meshes to be generated more quickly and easily, accelerating the progress of computational studies on tokamak plasmas.

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<sup>2</sup>R. Marchand and M. Dumberry, *Comp. Phys. Comm.* **96**, 232 (1996).

<sup>3</sup>A. S. Kukushkin et al., *Nucl. Fusion* **45**, 608 (2005).

<sup>4</sup>D. P. Stotler et al., *J. Nucl. Mater.* **363–365**, 686 (2007)

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