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Design of Novel Magnetic Divertors with High Heat Flux Capacity[1] PRASHANT VALANJU, MIKE KOTSCHENREUTHER, JAMES WILEY, MIKHAIL PEKKER, IFS, The University of Texas at Austin — We use STELLOPT tools (VMEC and COILOPT, which were developed for designing NCSX) to design novel magnetic divertor geometries for various machines (PEGASSUS, NSTX, ITER, and Reactor designs of various aspect ratios). Two categories of divertors are explored: 1) a second X-point to create flux expansion, or 2) extracting field lines outsides TF coils. Even though non-axisymmetric coils are used to allow better access, the plasma ripple is kept low. STELLOPT allows optimization of 3-D coils with free boundary equilibrium.

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Prashant Valanju

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