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IPPEX Virtual Tokamak – 0D Simulation Game ATHIRA ARAYATH, ARTURO DOMINGUEZ, Princeton Plasma Physics Laboratory — The IPPEX Virtual Tokamak is a 0D simulation game and educational resource available to the public at ippex.pppl.gov. The Virtual Tokamak gives players an intuitive idea of the functioning of a fusion reactor, from the basic tokamak operation, to the generation of electricity. The user can change parameters of the tokamak like Density, Auxiliary Power, and Magnetic Field and see how their changes affect the electrical power output of the reactor. Recent additions include a new section of the game which allows the user to also change the major radius, minor radius, elongation, and triangularity of the reactor and see the plasma cross section. Other updates include the option to choose the type of superconductor technology (Low Temperature Superconductor or High Temperature Superconductor) being used for the magnetic field coils. This is used to calculate the maximum axis magnetic field strength which becomes the maximum of the magnetic field slider in the game which makes the game more realistic. The option to add or remove the blanket and shield from the reactor has also been included. Finally, there is now another view to the game which gives more information about the power balance and other important fusion aspects to the user.

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