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Characteristics of DIII-D Electron Temperature Profiles[1] B. BRAY, C.-L. HSIEH, General Atomics — There are two points of view on electron thermal transport in tokamak plasmas. The first view is one where the thermal diffusivity is determined by local plasma parameters and the diffusivity determines the temperature profile. The other view is that the temperature profile shape is more significant and thermal transport will adjust itself accordingly to give a resilient temperature profile shape. The formation of electron transport barriers in the plasma interior in which the profile undergoes drastic changes further complicates the issue. Some of these ideas rely on active drift wave turbulent modes or the suppression of these modes. A study of the electron temperature profiles obtained in DIII-D for the different plasma regimes, L-mode, H-mode and plasmas with internal barriers will be presented. Specific attention will be given to the electron temperature gradient scale length and whether a critical gradient length value seems to be limiting the profile shapes.

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☐ Prefer Oral Session
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