STUDY OF UTILIZATION OF AUTOMOTIVE DIESEL GLOW PLUG AS AN IR SOURCE

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Glow plugs are used in commercially available Diesel engines to assist in cold weather starting. These devices are an Infrared source that are consistent in their function and inexpensive. The operational temperature of a glow plug is in the lower range of globar operational temperatures (1100 C) but is still potentially spectroscopically useful. This study seeks to characterize these devices with respect to their utility as an infrared emission source. The spectral response of the glow plug to input current variation was measured as was the temporal stability of the emission spectrum. Finally, comparisions are made between the emission spectra of glow plugs and globars.