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(54) Title of the invention : ADAPTIVE THERMOS MECHANICAL WINDSHIELD DEFOGGING SYSTEM

(51) International classification	:B60S 1/02, B60S 1/54, H05B 3/84, B01D 53/26, H05B 1/02	(71)Name of Applicant : <b>1)Chitkara University</b> Address of Applicant :Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura Punjab India
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(57) Abstract :

An adaptive thermos mechanical windshield defogging system, comprising a transparent member 101 with heating grid 102, a hygroscopic moisture absorption unit to passively absorb moisture from the windshield, an artificial intelligence prediction module to continuously analyze sensor data, generate fog-risk maps, and selectively activate the heating zones, a sensor suite to provide real-time data for control of the heating grid 102 and moisture absorbing plates to prevent windshield fog formation, at least one external ambient temperature sensor to monitor outside temperature fluctuations that affect windshield cooling, at least one external ambient humidity sensors, to detect high external humidity and predict increased moisture transfer to the windshield for proactive fog prevention, at least one infrared optical fog detection sensors to detect early scattering from fog droplets and provide secondary validation for fog prediction and emergency control.

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