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Unsteady numerical simulations over the BLOODHOUND supersonic car GUILLERMO ARAYA, Swansea University, B. EVANS, O. HASSAN, K. MORGAN — One of the main purposes of the BLOODHOUND SSC project consists on achieving the first 1000 mph record on land. In this study, unsteady flow predictions over the BLOODHOUND supersonic car (http://www.bloodhoundssc.swan.ac.uk/), are shown and discussed with Mach numbers up to 1.4. The governing equations of the flow are solved by implementing a hybrid RANS/LES approach. Close to walls the flow is treated with the RANS-equations and the Menter SST model is considered. In zones with separated flows and significant unsteadiness a subgrid-scale stress model is implemented.

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