

Session H2.7

THE DEVELOPMENT OF THE 2007 FORMULA SAE BY THE ART-7 TEAM

Dimitrios Perperidis*

Prepared by the ART-7 team members¹

KEYWORDS -

ABSTRACT - In September 2007 a formula student team, named ART-7, has been established by students of the Department of Mechanical Engineering of the Aristotle University of Thessaloniki. The main goal of this team is to design and build a formula SAE type race car and to participate in the Italian event that is going to take place in 21-23 September 2007 in the Fiorano Ferrari race track.

In this presentation the Formula SAE event, the scope and procedure of the race and finally the criteria that have to be met are outlined at first.

Next, the choice of the basic design parameters is shown. Suspension, steering and braking systems are described. The analysis of the chassis space frame and the heavily loaded components, such as the wheel uprights, the wheel hubs and the differential arms has been carried out under several driving conditions. Pre- and post-processing have been carried out using the ANSA and μETA software of BETA CAE Systems S.A..

The presentation concludes with an update of the current preparation status.

¹. The ART-7 team consists of : Assoc. Prof. A. Mihailidis (faculty advisor) and the following members: G. Fontaras, G. Karaoglanidis, I. Nerantzis, (PhD students) and I. Aslanidou, V. Bitsanis, I. Bosdas, L. Kozas, I. Nasiopoulos, G. Pappas, D. Perperidis, G. Simos and N. Tsoukala (undergraduate students).