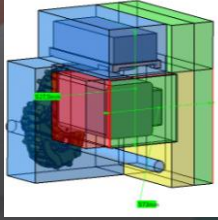


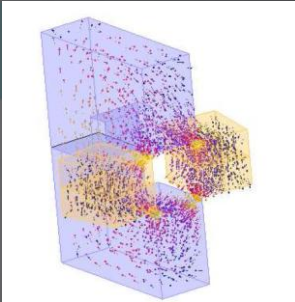
SWITCHED/SYNCHRONOUS RELUCTANCE MAGNET-FREE MOTORS FOR ELECTRIC VEHICLES

Specification

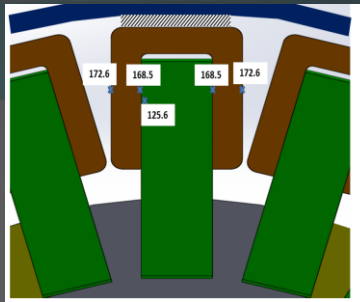
Requirements of Venus drive have been defined for the real performance of typical electrical vehicles. The design has taken into account the available space of the Van where the drive will be integrated in the final experimental demonstrator.



The motor Design is finished and prototype in the way.



Electromagnetic



Thermal

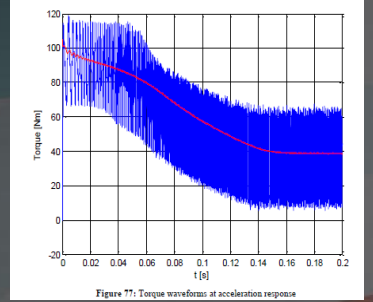
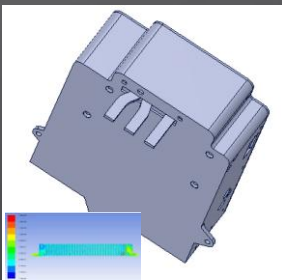
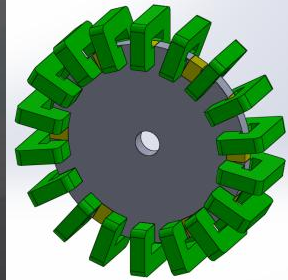


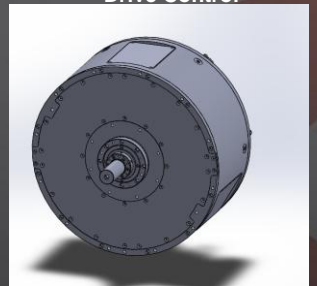
Figure 77: Torque waveform at acceleration response



Inverter



Mechanical Design



VENUS project aims to develop a novel electric drive system for EVs, (i) free of rare-earth magnets, (ii) which meets EV performance requirements (efficiency, power density) and (iii) that is feasible for mass-production.

In order to achieve that, VENUS will develop an axial-flux variable-reluctance machine, SRM

•SRM seems to be the trend in magnet-free electric machine technology but it has not obtained yet the desired success. Although axial flux configurations of this technology are being introduced in other applications, their use in EVs would be a genuine breakthrough.

Project Partners: IK4-Tekniker (Spain), Fagor Electronica (Spain), Dr.-Ing. Ernst Braun GmbH (Germany), Motor Design Ltd. (UK), Mondragon University (Spain)
For more information please visit the VENUS project website: <http://www.venusmotorproject.eu>

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