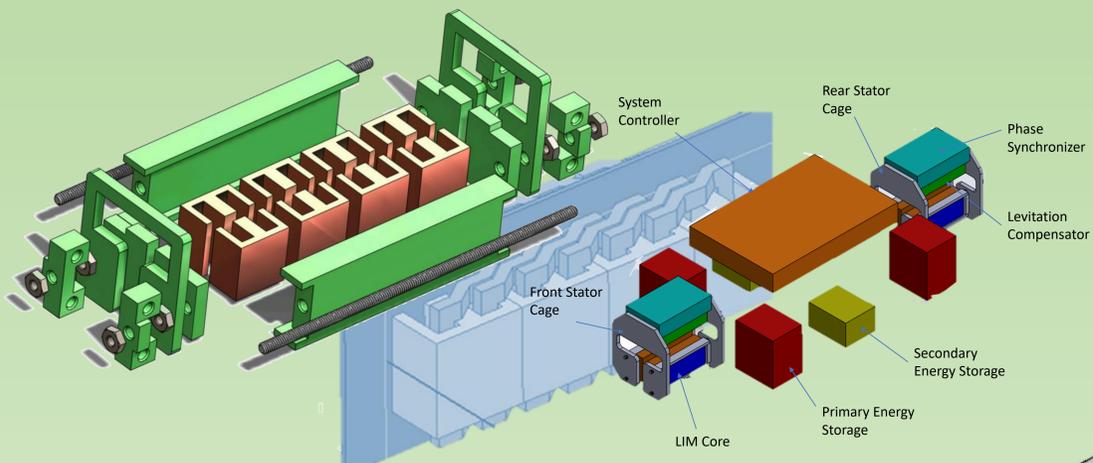


N. Autobee, N. Ylitalo, O. Melnyk, J. Thompson, D. Bueno-Baques, R. Cascaval
University of Colorado Colorado Springs, 1420 Austin Bluffs Pkwy, Colorado Springs 80918

The HyperFalcos team from UCCS, as one of the student led groups contributing to the HyperLoop idea, is introducing a new concept in high speed pod development. The scaled model presented is a systems concept demonstrator being built for the UCCS experimental hyperloop track.

Propulsion



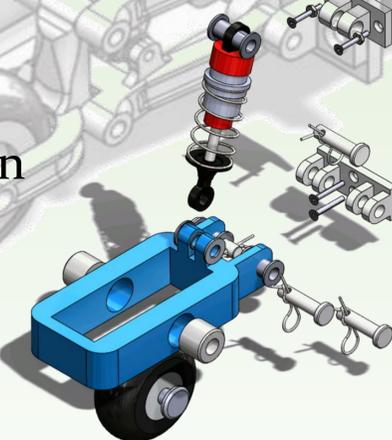
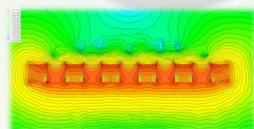
The Alternating Induction Split Core Engine (ALISCE for short), a proprietary customized linear induction motor design, provides the ability to achieve high speeds in short distances with a highly optimized thrust-to-weight ratio. This system - in combination with adjustable magnetic levitation system - will grant a no-friction, nearly drag-free ride in low pressure environment

Power & Energy Storage

Power system for the LIM cores is designed around two 24 V high C Li-Ion batteries. Battery modules are located at low center of gravity positions to aid to the pod stability. Control systems are powered by a redundant lower voltage rig for an increased reliability.

Levitation & Suspension

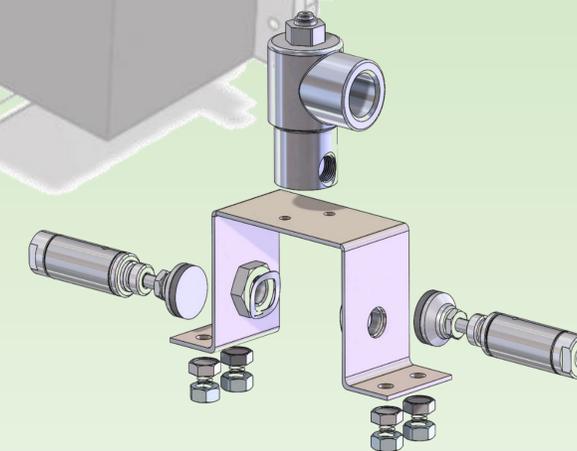
The compact suspension integrates a passive levitation system based on Halbach arrays built into the wheel frame.



Control system

Pod features a robust micro-controlled based control system, including independent modules for the BMS, ALISCE, telemetry, health and diagnostics. Control modules are interfaced using the industry standard CAN protocol.

Braking



Pod braking is achieved by a combination of electromagnetic and friction brakes. Electromagnetic braking is provided by the LIM cores and friction pneumatic actuated. The system is fail safe against power loss or electronic control failure.

Acknowledgements

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