

Senzori si traductoare miniaturizate pentru aplicatii aerospatiale

Miniaturised sensors and transducers for aerospace engineering

Obiectiv principal

Se urmareste insusirea de catre masteranzi a unor capitole speciale legate de arhitecturi si elemente de calcul aferente unor senzori si traductoare miniaturizate utilizate in aplicatii aerospatiale

Course Objective

The aim is for master students to acquire special chapters related to architectures and computational elements related to miniaturized sensors and transducers used in aerospace applications.

Curs

1 ora pe săptămână, total 14 ore

- Parametrii si erorile senzorilor de acceleratie si viteza unghiulara
- Traductorul - concepte și aspecte generale
- Microaccelerometre capacitive analogice
- Modele de accelerometre utilizate in navigatorii inertiali
- Modele de girometre utilizate in navigatorii inertiali

Course

1 hour weekly, total 14 hours

- Parameters and errors of the acceleration and angular speed sensor
- Translator - general concepts and aspects
- Analog capacitive microaccelerometers
- Accelerometer models used in inertial navigators
- Gyro models used in inertial navigators

Seminar

1 ora pe săptămână, total 14 ore

- Studii de caz privind influentele erorilor senzorilor inertiali in pozitionarea vehiculelor aeriene
- Calcule de optimizare a accelerometrelor cu fibra optica cu retea Bragg
- Studiul accelerometrelor miniaturizate: capacitive, cu tunelarea electronilor si electromagnetice
- Studiul girometrelor cu vibratii
- Studiul girometrelor optice

Seminar

1 hour weekly, total 14 hours

- Case studies on the influences of inertial sensor errors in the positioning of air vehicles
- Optical fiber accelerometer optimization calculations with Bragg network
- Study of miniaturized accelerometers: capacitive, with electron tunneling and electromagnetic
- Study of vibration gyrometers
- Study of optical gyrometers