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# Talk

**November 29, 2017 / 16:15**
**Mathematikon, Conference Room / 5th Floor**
**Im Neuenheimer Feld 205, 69120 Heidelberg**

**Speaker:**
Prof. Felix Chernousko
*Ishlinsky Institute for Problems in Mechanics of the Russian Academy of Sciences*

**Title:**
“Optimal Control of a Body with Movable Internal Masses"

**Abstract:**
Motion of mobile robotic systems can be based on specific motions of auxiliary internal masses inside the main body of the robot. Such robots have no outward devices, can be hermetic and operate in various environment, including tubes, vulnerable or hazardous media. Control of rigid bodies by means of internal mobile masses can be useful also for spacecraft. Control of one-dimensional and two-dimensional motions of bodies with internal masses is discussed. Optimal controls for such systems are obtained.

**Biography:**
Professor Felix Chernousko is a specialist in optimal control, mechanics and robotics. He graduated from Moscow Institute of Physics and Technology and has been working at the Institute for Problems of Mechanics of the Russian Academy of Sciences in Moscow for many years. He had been the director of this institute from 2004 until 2015. Professor Chernousko has published more than 500 papers and 14 books on mechanics of spacecraft, optimal control and robotics. His last book was published by Springer in 2017. Chernousko is a Full Member of the Russian Academy of Sciences, the European Academy of Sciences, the International Academy of Astronautics, Fellow of the European Mechanics Society, Honorary Professor of the Moscow Institute of Physics and Technology and others. He is laureate of the Russian State Prize for Science (twice), the Körber European Science Prize, the Alexander von Humboldt Research Award, the Chaplygin Gold Medal of the Russian Academy of Sciences, the Euler Gold Medal and others. His recent publications are devoted to mobile robots.