סמינריון

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות שתתקיים ביום ד' 06.10.21,
בשעה 13:00 באמצעות הזום : https://technion.zoom.us/j/97916443626

מרצה : ולאד רינסקי

מנחה : פרופ'/ח רנה ואן האוט

על הנושא:

Flow Visualization Using Optically Active Particles

The seminar will be given in Hebrew

תקציר ההרצאה :

Optical activity inherent in crystalline structures of biopolymers and crystallized polymeric materials can serve a laserless (safe and inexpensive) method of flow illumination to be used in volumetric flow velocimetry. Seeding particles incorporating symmetric crystal colonies (e.g., starch granules, polymer spherulites) are birefringent, and tend to rotate polarization of the transmitted light, what makes them detectable when placed between two perpendicular polarizers. Since the particles are recognized due to the light transmittance, there is no need for powerful lasers like those used in scattering based techniques. In addition, unlike 3D shadowgraphy, in which increasing the depth of field (DOF) requires larger particles (up to 250μm for a DOF of 5 cm), the light transmittance method allows working with particles smaller than 10 microns, regardless of the depth of field. The advantage of not using a high-powered laser is obvious since it reduces dramatically the costs involved in setting up an imaging system as well as mitigates safety regulations. The advantage of using smaller particles results in improved spatial resolution of the measured velocity field.

בברכה,

פרופ"ח אתי סאס
מרכז הסמינרים