Ilya I. Ryzhkov Doktoreak seminario bat eskaini du Eskola Politeknikoan

2017/10/10

Ilya Ryzkov Doktoreak (Institute of Computational Modelling, Krasnoyarsk, Errusia) seminario bat eskeini zuen Irailaren 29an Mondragon Unibertsitateko Goi Eskola Politeknikoan, "*Separation of multicomponent mixtures in plane and cylindrical thermogravitational columns and its stability*" titulupean.

Seminario hau DCMIX proiektuko partaideek ematen dituzten semaniarioen errondan txertatzen da. DCMIX proiektua Europako Espazio-agentziak bultzatutako proiektua da eta bertan Mondragon Unibertsitateko Goi Eskola Politeknikoko Fluidoen Mekanikako ikerketa taldeak hartzen du parte.

Ryzhkov Doktorea eta bere doktoregaia den Sofia V. Kozlova anderea Fluidoen Mekanika taldeko kideekin

Ilya I. Ryzhkov Doktoreak emandako seminarioaren laburpena:

We present the theory of multicomponent mixture separation in a cylindrical thermogravitational column (TGC). A detailed analysis of the impact of curvature and ratio of inner and outer cylinders radii on the stationary and transient separation is performed.

It is shown that the stationary separation increases with decreasing the radii ratio. A model describing the evolution of separation in vertical direction is derived and solved analytically. It is found that the transient time tends to diffusion time along the column height when radii ratio approaches zero, while it reduces to transient time for a flat-plate column when the radii ratio approaches unity. The 2D and 3D numerical simulations of separation in cylindrical and plane columns are performed for two ternary mixtures and the results are compared with the analytical model. The software package for linear stability analysis of stationary separation in TGC with respect to 2D and 3D perturbations is developed. The critical parameters for instability are determined for sample ternary mixtures.