

CELL DYNAMICS UNDER COLD PLASMA TREATMENT

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Cold plasmas with ion temperatures close to room temperatures are one of the promising and challenging areas of research. Their unique properties allow using them in various areas including medicine and biology, providing tool for living tissue treatment. This report is focused on the studying of helium cold jet and its interaction with living cells. Living cells (tertiary wild type fibroblast) are treated with helium plasma jet and its influence on the migration rates are studied including temporal behavior of cells after treatment. Localization of the effect of plasma jet on cell dynamics is investigated. Cell tracking is performed during 32 hours in three localized areas (treated area, near treated area and far from treated area). Fixed and stained cells were studied using fluorescence microscopy to identify changes in cell skeleton and focal adhesions. Helium plasma jet is characterized by UV-vis-NIR spectrum in both transverse and axial directions.