Poster

STARK SHIFT OF THE 305.2 nm AND 322.1 nm Pb IV LINE

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Stark shift of the 305.2 nm and 322.1 nm Pb IV (triply ionized lead) spectral lines have been measured in a pulsed helium plasma. The linear low-pressure pulsed are was used as a plasma source. Lead atoms are produced, as impurities, by sputtering from the lead plates. We have found opposite sign of the measured Stark shift in comparison with the calculated ones.

Poster

ON THE ENERGY TRANSFER INTO THE CADMIUM ENERGY DIAGRAM

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A linear low -pressure pulsed arc was used as an optically thin plasma source. A pulsed discharge was produced in a pyrex discharge tube. Helium was chosen as the carrier gas. The cadmium atoms were sputtered from the thin cadmium cylindrical plates located in the homogeneous axial part of the discharge tube. The helium plasma was operated at electron temperatures up to 19000 K and 1.1×10^{23} m^{-3} electron density. The stepwise ionization processes via the high lying singly ionized (Cd II) energy levels, populated well due to Penning and charge exchange effects, provide high density of the Cd III (and Cd IV) ions in our helium plasma. The temporal evolutions of the spectral line intensities were monitored using a spectrograph and ICCD camera as a highly sensitive detection system. We have observed intense Cd I, Cd II and Cd III spectral lines with well defined profiles.