

# **X-Ray Emission in a Small Plasma Focus Operating With H<sub>2</sub>-Ar Mixtures**

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## **Abstract**

The temporal and spatial characteristics of the X-ray emission in a 3 kJ plasma focus are investigated when operating in H<sub>2</sub> with an Ar admixture. The experiments are performed in a UNU/ICTP PFF device. The X-ray emission is detected with a multichannel system of PIN-Si diodes with different filtering looking axially and radially into the focusing region. Two main periods are observed in the X-ray emission, corresponding to two successive compressions in the focus. X-ray emission arising from electron beam activity and dense plasmas is identified. On the basis of the X-ray emission characteristics several features of the plasma focus dynamics are discussed.