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## 3D Structure of Liquid Sprays: X- Ray $\mu$ -Radiography and Tomography by Polycapillary Based Technique

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This work reports the results of a X-ray  $\mu$ -tomography for investigating the inner structure of high pressure fuel sprays. X-ray imaging is widely used in a multitude of industrial applications where non-destructive tests are required for high accuracy measurements of samples morphology. Synchrotron X-ray source is generally used for fuel sprays investigation because its high flux radiation can overcome the troubles linked to the low absorption of hydrocarbon chains as fossil fuels.

Recently, a desktop facility has successfully used to characterize high pressure gasoline sprays for automotive applications [1]. A X-ray tube coupled with polycapillary optics provided low divergence, high flux beam. This paper reports the last improvement concerning the quantitative measurements performed on fuel sprays.

[1] Hampai, D., Marchitto, L., Dabagov, S. B., Allocca, L., Alfuso, S., & Innocenti, L. (2013). Desktop X-ray tomography for low contrast samples. Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 309, 264-267.

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