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## New interferometric aperture masking technique for full transverse beam characterization

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The classical double-aperture interferometry using the visible part of the synchrotron radiation has been used in accelerators for beamsize measurements since the late 90s. However, this technique provides the beam size projection only in the direction given by the two aperture centers (i.e. only the horizontal or vertical direction). To fully characterize the transverse electron beam ellipse, given by the two semi-axis of the ellipse and its tilt angle, the double-aperture system could be rotated in a process that can take few minutes. Instead, using radio-astronomy techniques, this paper shows a new interferometric method with several apertures by which a full 2d transverse beam characterization is done in real-time.

### Footnotes

### Funding Agency

### I have read and accept the Privacy Policy Statement

Yes

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