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Azimuthally-structured radio beams of pulsars

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There is a growing evidence that radio beams of some pulsars are azimuthally-structured.
When viewed down the dipole axis, the beam resembles spokes in a wheel,
with narrow emission stripes spreading away from the dipole axis.
I will present objects for which the spoke-like model describes their profiles
more successfully than the traditional conal geometry. Further from the dipole axis,
the stripes do not widen as would be expected for a structure limited by lines of fixed magnetic azimuth.
Hence the mathematical formulae that describe the beam do not result from a simple projection
of dipolar field lines on the sky. With the ambiguity of pulsar geometry determination
through the gamma-ray- or polarisation-based methods, the task is hindered by the unknown
radio beam geometry, and the conal interpretation of profiles can be misleading.

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