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Main quadrupoles for the FCC

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A 2D collar-based mechanical analysis and a 3D electromagnetic investigation of the 360 T/m FCC main quadrupoles are presented. The magnet coils rely on a conventional $\cos(2\theta)$ layout. One of the challenges is the windability around the 50 mm aperture of the 16 mm wide Rutherford cable made of 0.85 mm strand. This is going to be investigated in the near future.

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