Test of Multi-turn Coil Node: Current Density & Field Direction & Magnitude

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Fig. 1. Half-toroid of sixteen identical coils: geometry and mesh; O.R./I.R. = 1.2.

Fig. 2. Field direction & magnitude (arrows & colors) of half-toroid; O.R./I.R. = 1.2.
Fig. 3. Field magnitude along centerline of bore of half-toroid; O.R./I.R. = 1.2.

Fig. 4. Current density direction & magnitude (arrows & color); O.R./I.R. = 2. Bottom: “External current density”; Left: Reference edges = outer circumference; Right: Reference edges = inner circumference; Top: Reference edges = inner & outer circumferences.
Fig. 5. Field direction & magnitude (arrows & color) with current densities as in Fig. 4.