Field vs. I.R. of 10-MW Magnet with 30 cm Build; Conductor Δz/Δr = 2

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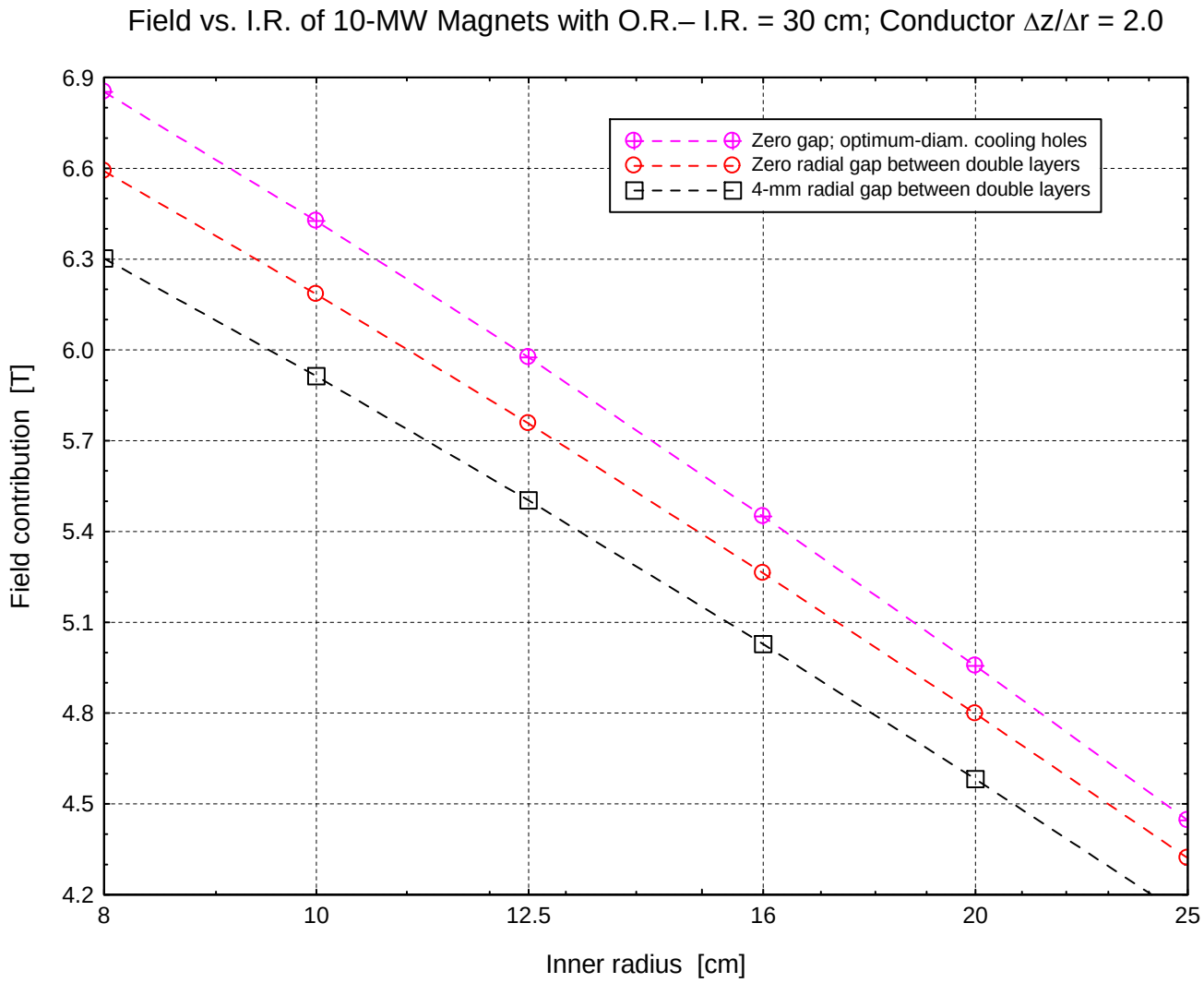

Fig. 1. Field contribution (in 15-T background field) vs. inner radius of efficient 10-MW magnets with 30-cm radial depth of windings of mineral-insulated conductor. In each layer the peak hot-spot temperature is 90 ºC or less with an inlet temperature of 10 ºC, a water-pressure drop of 40 atm, and three hydraulic passages per double-layer. The cross section of the hollow conductor is rectangular rather than square, with an aspect ratio of two.