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Integral representations of Dini series of Bessel functions

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Abstract. Two different type integral representation formulae are established for Dini (or Fourier-Dini) series of Bessel functions. The first one is a double definite integral expression derived by using a method successfully applied in the similar questions for Neumann, Kapteyn and Schlomilch series, while the another double indefinite integral formula is concluded by means of the non-homogeneous Bessel differential equation.