# COMMENTS AND CLARIFICATIONS: CALCULATING INDUCED FIELD DISTRIBUTION IN SPECIMEN WITH INHOMOGENEOUS CONSTITUTION; AND, WHEN THE SHAPE IS NOT REGULAR

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The calculation of induced field distribution is the procedure by which the Demagnetization factors values can be obtained for homogeneously magnetized specimen. The demagnetization factor values can be of significance mainly when the specimen is homogenously magnetized. When the material medium is homogeneous, the magnetization in a magnetic field can be homogeneous only for the regular ellipsoidal shapes, spherical shape being a special case of the general ellipsoid.

The case of a top-shaped and the cylindrically shaped specimen had been considered earlier (1). These shapes are not ellipsoidal but a simple summation procedure, which can reproduce the known demagnetization factors, could be used to calculate the induced field contributions within the specimen for the above two cases of non-ellipsoidal regular shapes.

The case of inhomogeneous material medium was considered in another previous work (2). The above summation procedure could have a simple modification for handling the case of inhomogeneous material and the method for the calculation of induced field contributions within such specimen was illustrated.

The question of whether, any kind of demagnetization factor can be attributed for such shapes and materials was considered in a much earlier (3) contribution. In view of the micro-macro paradox in the context of calculation of induced fields as pointed out in a recent contribution (4), the above discussions (in 1,2 and 3) would be consolidated and clarifications would be added for the necessary significance of the calculation procedures in the respective contexts.

1. http://nehuacin.tripod.com/id3.html (4th Alpine Conference on SSNMR)
2. http://www.geocities.com/inboxnehu_sa/nmrs2005_icmrbs.html
3. http://nehuacin.tripod.com/id1.html (EUROMAR2006)
4. http://nehuacin.tripod.com/id5.html (EUROMAR2008)

http://nehuacin.tripod.com/id6.html