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ERROR BOUNDS REVISITED

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We propose a unifying general framework of quantitative primal and dual sufficient error bound conditions covering linear and nonlinear, local and global settings. We expose the roles of the assumptions involved in the error bound assertions, in particular, on the underlying space: general metric, Banach or Asplund. Employing special collections of slope operators, we introduce a succinct form of sufficient error bound conditions, which allows one to combine in a single statement several different assertions: nonlocal and local primal space conditions in complete metric spaces, and subdifferential conditions in Banach and Asplund spaces. In the nonlinear setting, we cover both the conventional and the ‘alternative’ error bound conditions.

Dedicated to the memory of Rafail Fedorovich Gabasov.

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