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Abstract for an Invited Paper  
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**A new measure: the reform of the International System of Units**

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The metric system began with the French revolution, and now we are experiencing the greatest revolution in measurement since the French revolution. The definitions of the kilogram, ampere, kelvin, and mole are all changed, being based on chosen and fixed values for Plancks constant, the electron charge, Boltzmanns constant, and Avogadros number. I will explain how this is possible, and why it was necessary?