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Measurement of the gravitational quantities g and G : How ideas for precision measurement experiments come about

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I will talk about g and G whose determinations go back to some of the earliest measurements in the history of metrology. Although today's measurement accuracy for g , the free-fall acceleration due to the Earth's gravity, has improved by nearly nine orders of magnitude, the measurement accuracy of G , the Newtonian Constant of Gravitation, has improved by only two orders of magnitude over its 300 year measurement history. I will discuss what has driven (and impeded) this progress, and how ideas for improvements in these measurements have helped advance the frontiers of measurement science. Finally, I will point out the interconnectedness of all precision measurement experiments.