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**ACCURATE DETERMINATION OF NEUTRON BINDING ENERGIES**Michael Jentschel<sup>1</sup>, Hans Boerner<sup>1</sup>, Paolo Mutti<sup>1</sup>, Maynard S. Dewey<sup>2</sup><sup>1</sup> *Institut Laue-Langevin*<sup>2</sup> *National Institute of Standards and Technology*

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The combination of high precision gamma ray measurements with precision mass determinations allows to determine fundamental constants, like the neutron mass and the molar Planck constant. The basic principle of these measurements will be discussed. Experimental results from measurements with <sup>29</sup>Si, <sup>36</sup>Cl, <sup>33</sup>S and <sup>49</sup>Ti will be presented. Further progress in the precision of the mass measurements is stimulating a new generation of binding energy measurements. The basic concept for these measurements will be reviewed.