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# Recent achievements on A=3,4 Lambda hypernuclear systems

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In a recent experiment performed at the electron accelerator MAMI a systematic study on the ground state binding energy of hyperhydrogen 4LH was performed. The energy was deduced from the spectroscopy of mono-energetic pions from the two-body decays of hyperfragments, which were produced and stopped in a 9Be target. While the ground state binding energy difference of DBL(0+g.s.) =BL(4LHe(0+g.s.)) −BL(4LH(0+g.s.)) =233 ±92keV is smaller as measured by the emulsion technique it still supports a sizable CSB effect in the LN interaction. Furthermore, it suggests a negative binding energy difference between the excited states of DBL(1+exc) =BL(4LHe(0+g.s.)) −BL(4LH(1+exc)) =−83 ±94keV. While the total error of the MAMI binding energy data is of the same order than that of the compiled results from the emulsion technique, it is currently dominated by the systematic uncertainty of the absolute momentum calibration, which can be improved further. Current developments at MAMI are aiming at a higher accuracy of the calibration, which could reduce the error on the binding energy by a factor of four. Finally, I will also discuss recent developments and perstectives in the hypertriton system.

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