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**From laboratory plasma experiments to space plasma experiments with ‘CubeSat’ nano-satellites**

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‘CubeSat’ nano-satellites provide low-cost access to space. SP3 laboratory’s involvement in the European Union ‘QB50’ ‘CubeSat’ project [[www.qb50.eu](http://www.qb50.eu)] which will launch into space 50 ‘CubeSats’ from 27 Countries to study the ionosphere and the lower thermosphere will be presented. The Chi Kung laboratory plasma experiment and the Helicon Double Layer Thruster prototype can be tailored to investigate expanding magnetized plasma physics relevant to space physics (solar corona, Earth’s aurora, adiabatic expansion and polytropic studies). Chi Kung is also used as a plasma wind tunnel for ground-based calibration of the University College London QB50 Ion Neutral Mass Spectrometer. Space qualification of the three Australian QB50 ‘CubeSats’ (June 2016) is carried out in the WOMBAT XL space simulation chamber. The QB50 satellites have attitude control but altitude control is not a requirement. SP3 is developing end-to-end miniaturised radiofrequency plasma propulsion systems (such as the Pocket Rocket and the MiniHel thrusters with power and propellant sub-systems) for future ‘CubeSat’ missions.