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## A simple atmospheric electrical instrument for educational use

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**Abstract.** Electricity in the atmosphere provides an ideal topic for educational outreach in environmental science. To support this objective, a simple instrument to measure real atmospheric electrical parameters has been developed and its performance evaluated. This project compliments educational activities undertaken by the Coupling of Atmospheric Layers (CAL) European research collaboration. The new instrument is inexpensive to construct and simple to operate, readily allowing it to be used in schools as well as at the undergraduate University level. It is suited to students at a variety of different educational levels, as the results can be analysed with different levels of sophistication. Students can make measurements of the fair weather electric field and current density, thereby gaining an understanding of the electrical nature of the atmosphere. This work was stimulated by the centenary of the 1906 paper in which C. T. R. Wilson described a new apparatus to measure the electric field and conduction current density. Measurements using instruments based on the same principles continued regularly in the UK until 1979. The instrument proposed is based on the same physical principles as C. T. R. Wilson's 1906 instrument.

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