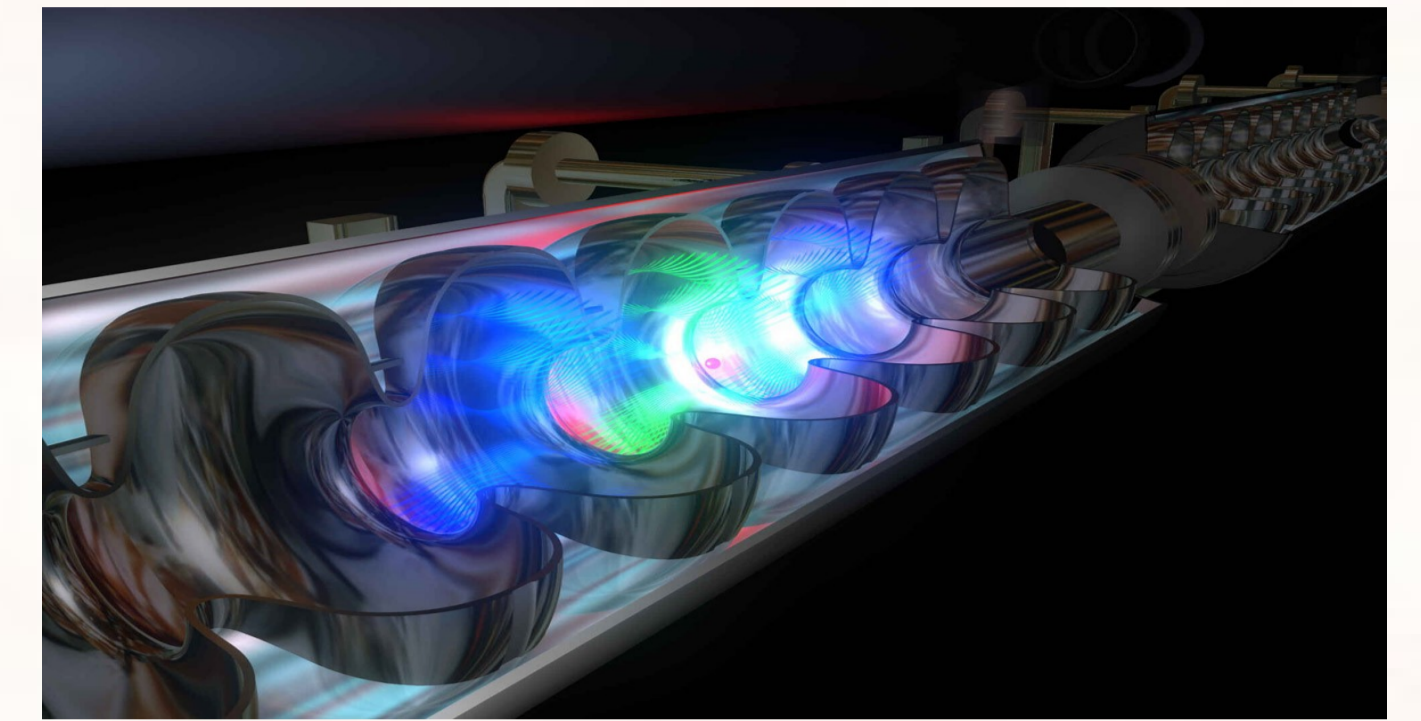


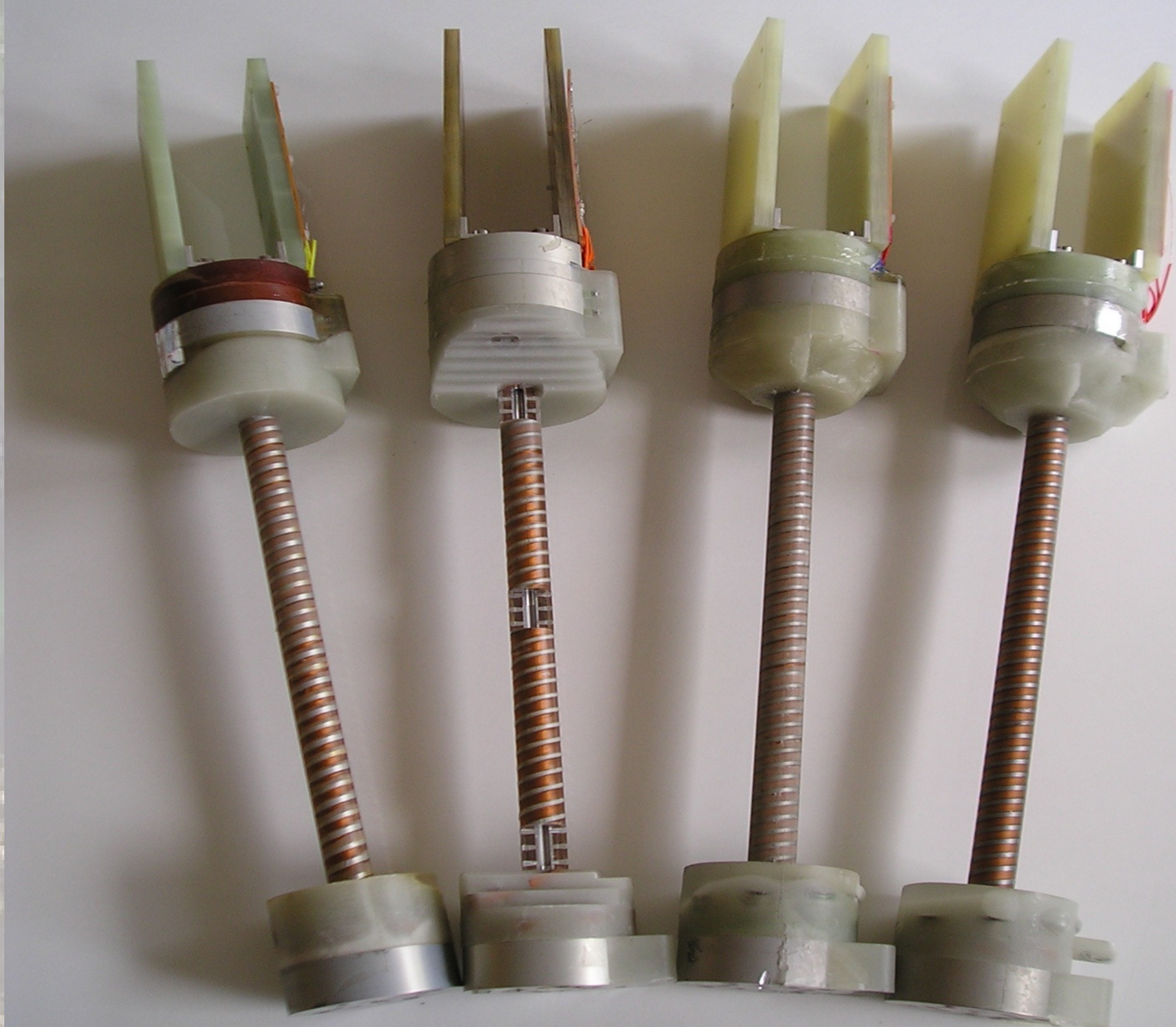
# POLARISED POSITRONS AT THE ILC

The International Linear Collider will collide electrons and positrons at high energy. One of the major technological challenges will be to produce positrons at the required rate of 100,000,000,000,000 per second.



A number of solutions were proposed, including a European suggestion to use an undulator-based design for the positron source. This design also has the extra characteristic of being able to produce polarised positrons. A Durham-led collaboration showed that using a polarised beam would significantly increase the scientific reach of the ILC, which led to the undulator-based design becoming the international favourite.

4 short undulator prototypes



Working with the polarised beam requires many additional theoretical and technical advances, and the UK is currently world-leading in this field. Now that the UK is no longer in the collaboration, there is a danger that the idea of using polarised beams will be dropped, which would reduce the amount of science the ILC is able to do.

More physics information:

<http://www.ippp.dur.ac.uk/~gudrid/source/>