

Energy loss distribution in thin Si CMOS sensor

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Abstract

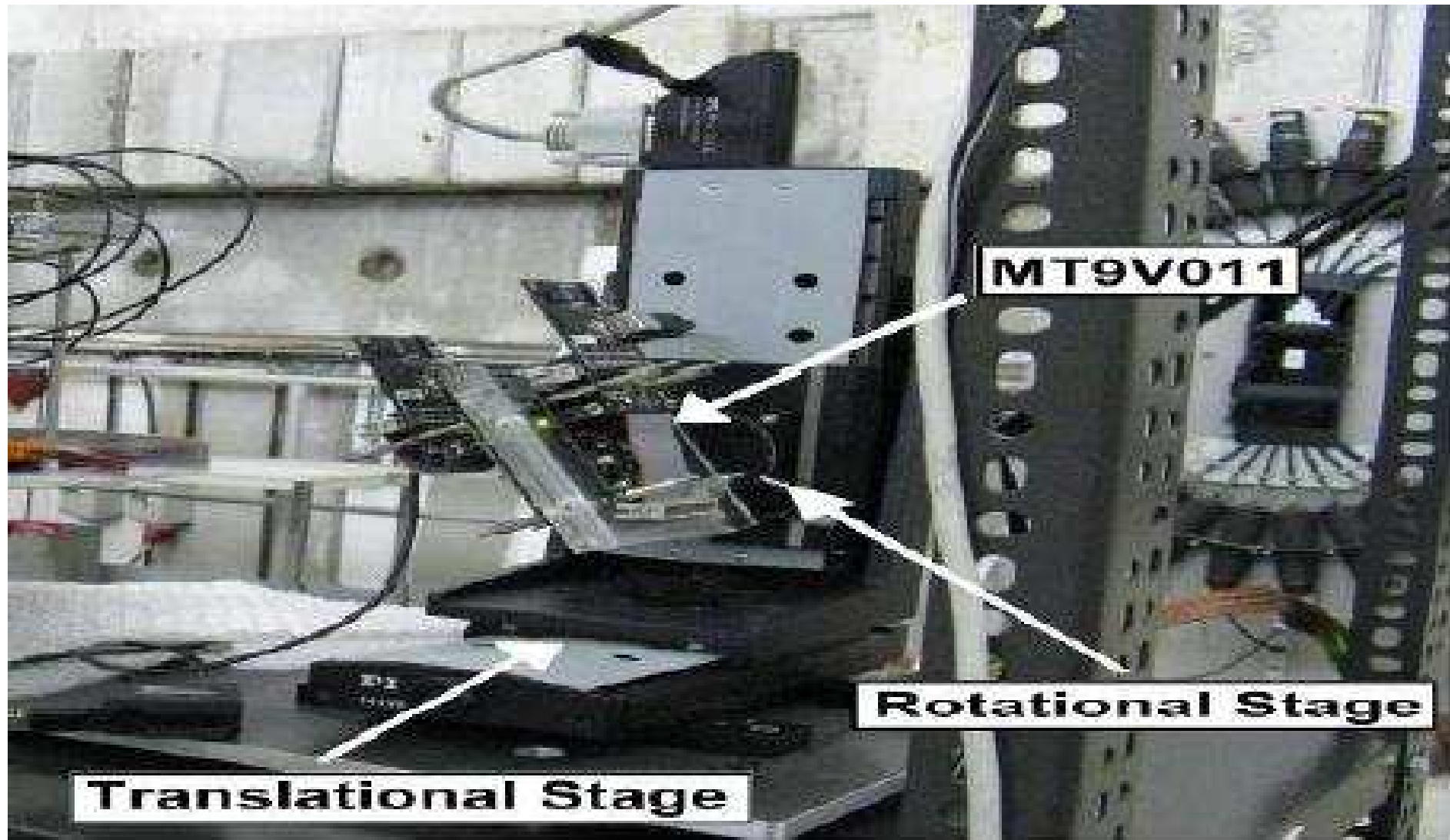
Recent measurements of the energy loss distribution in thin Si CMOS sensor are compared with the GEANT4 models at different production thresholds.

1 Outline

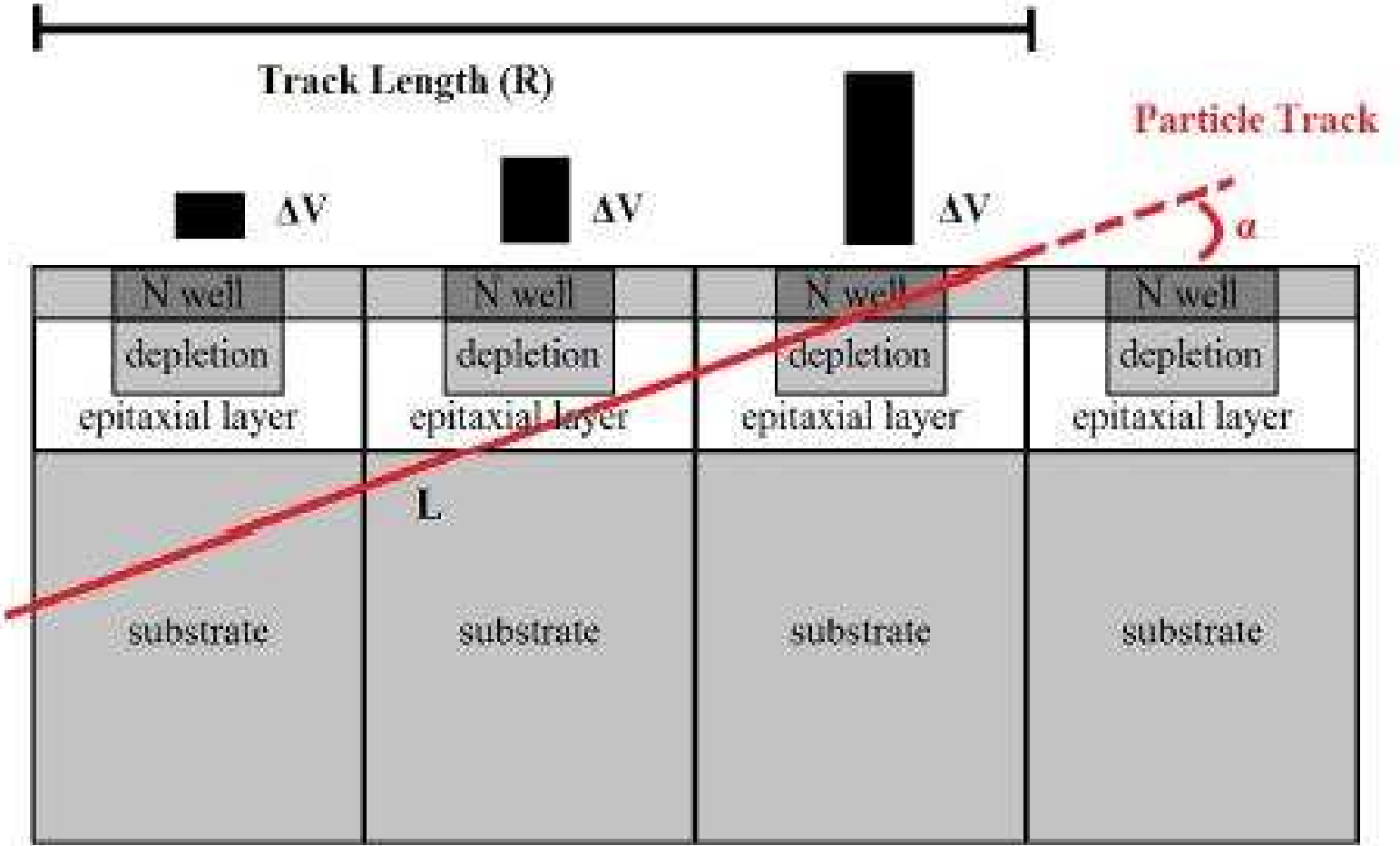
1. Experimental setup [1].
2. Comparison of experimental data with the GEANT4 ionisation models.
3. Conclusions.



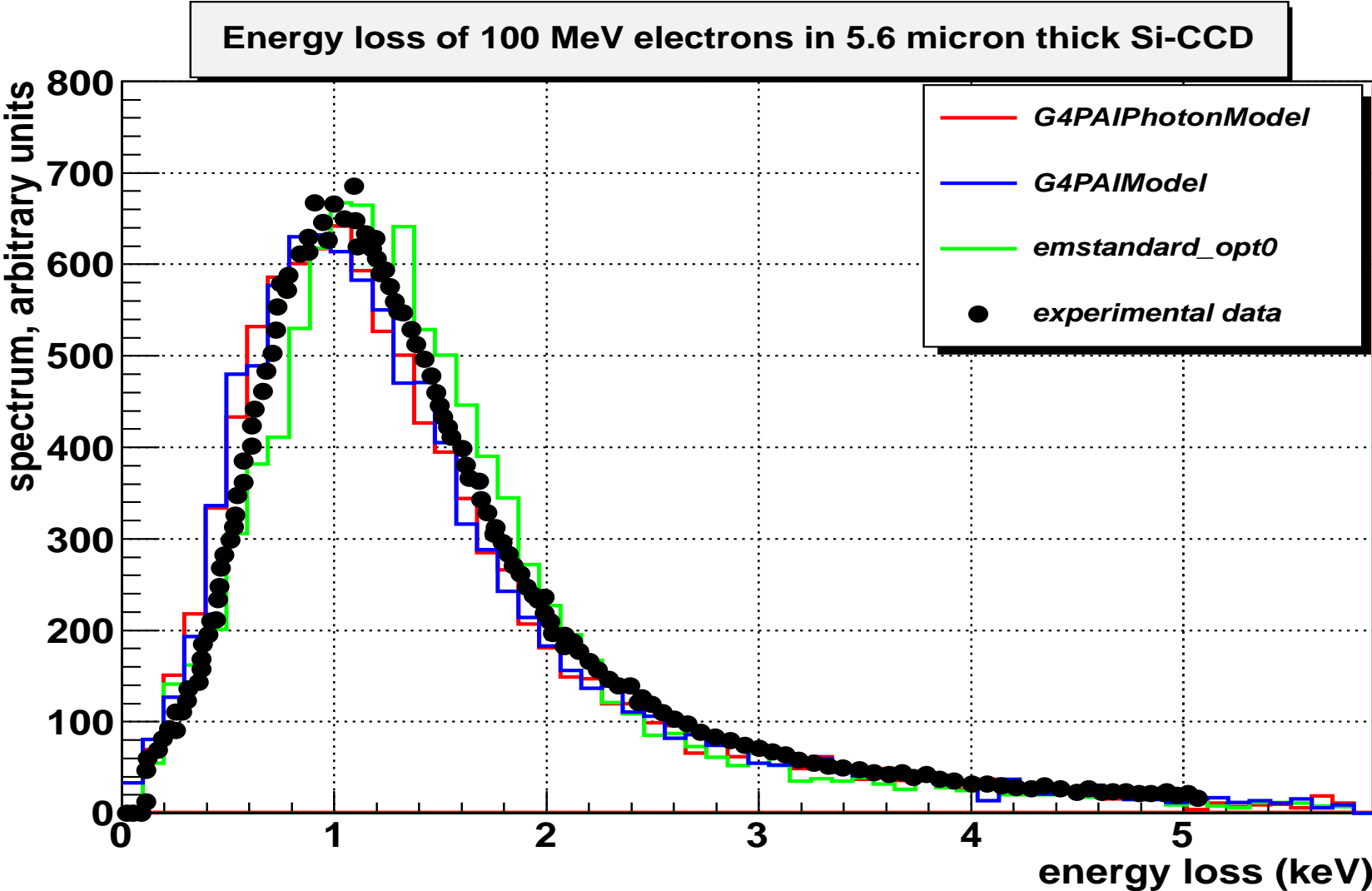
MT9V11 Si CMOS sensor (left) and MT9SH06 readout board (right) [1].



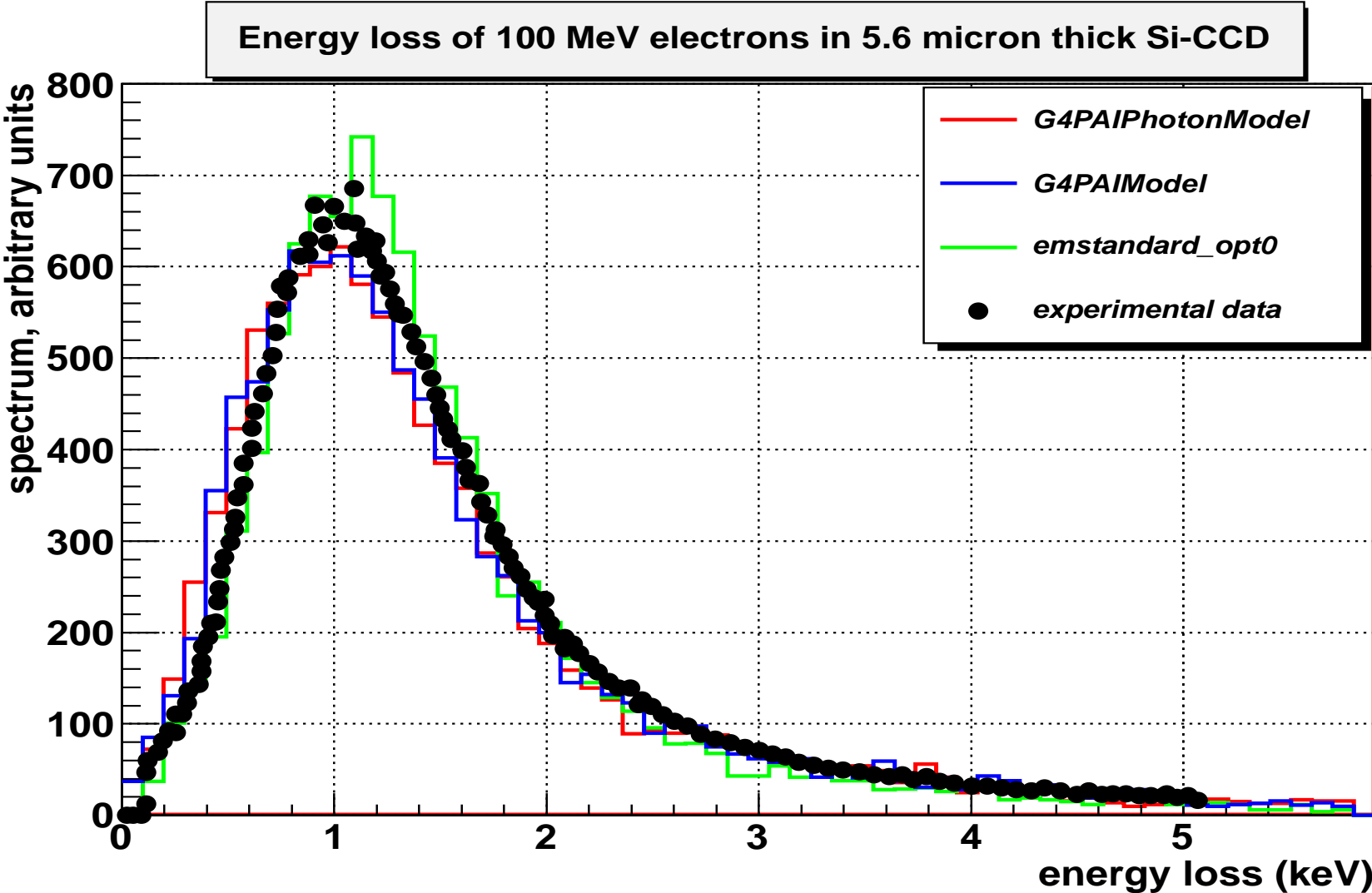
Test setup at CERN PS T9 beam [1].



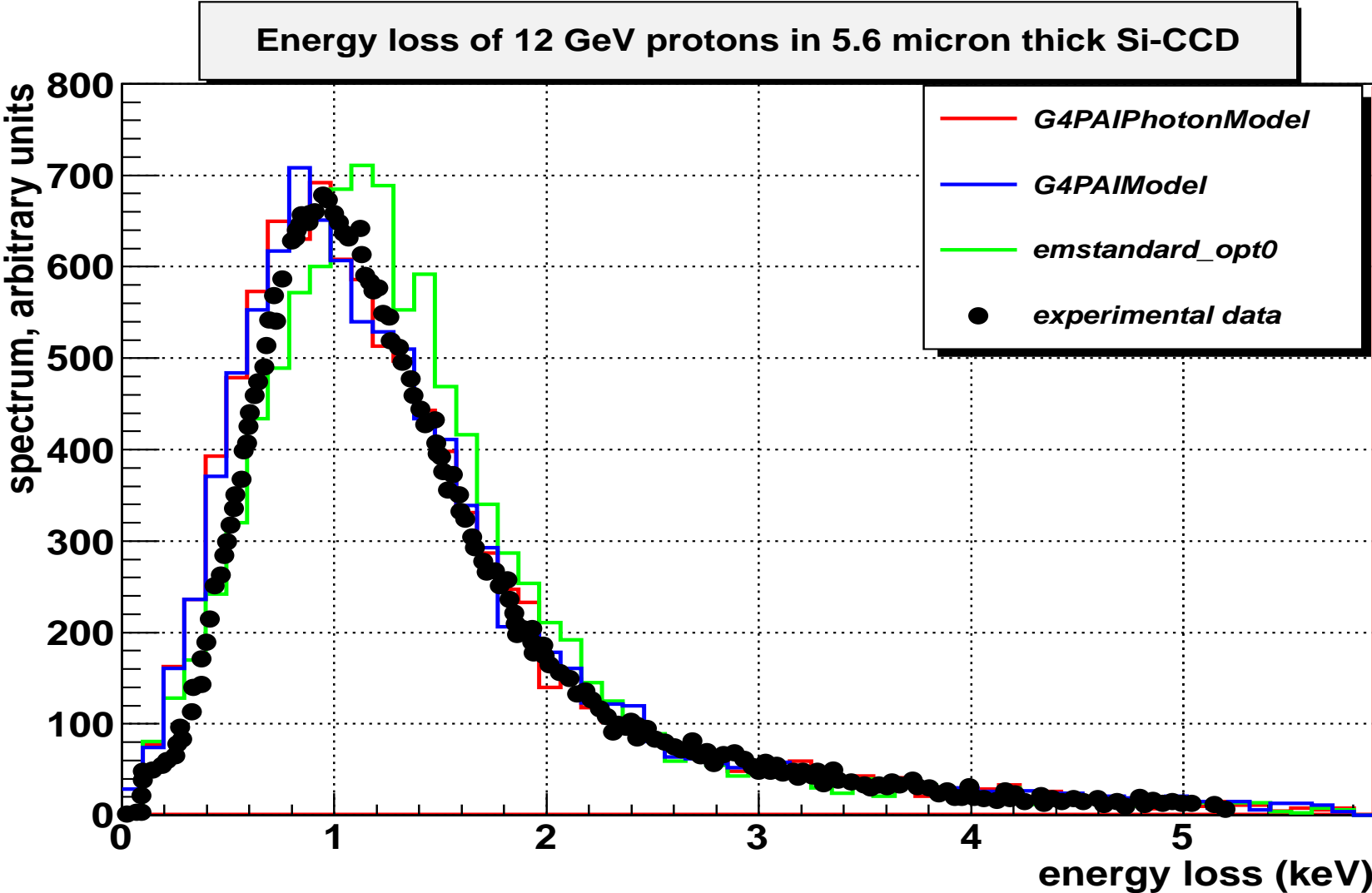
Scheme of grazing method (one track in few pixels) [1].



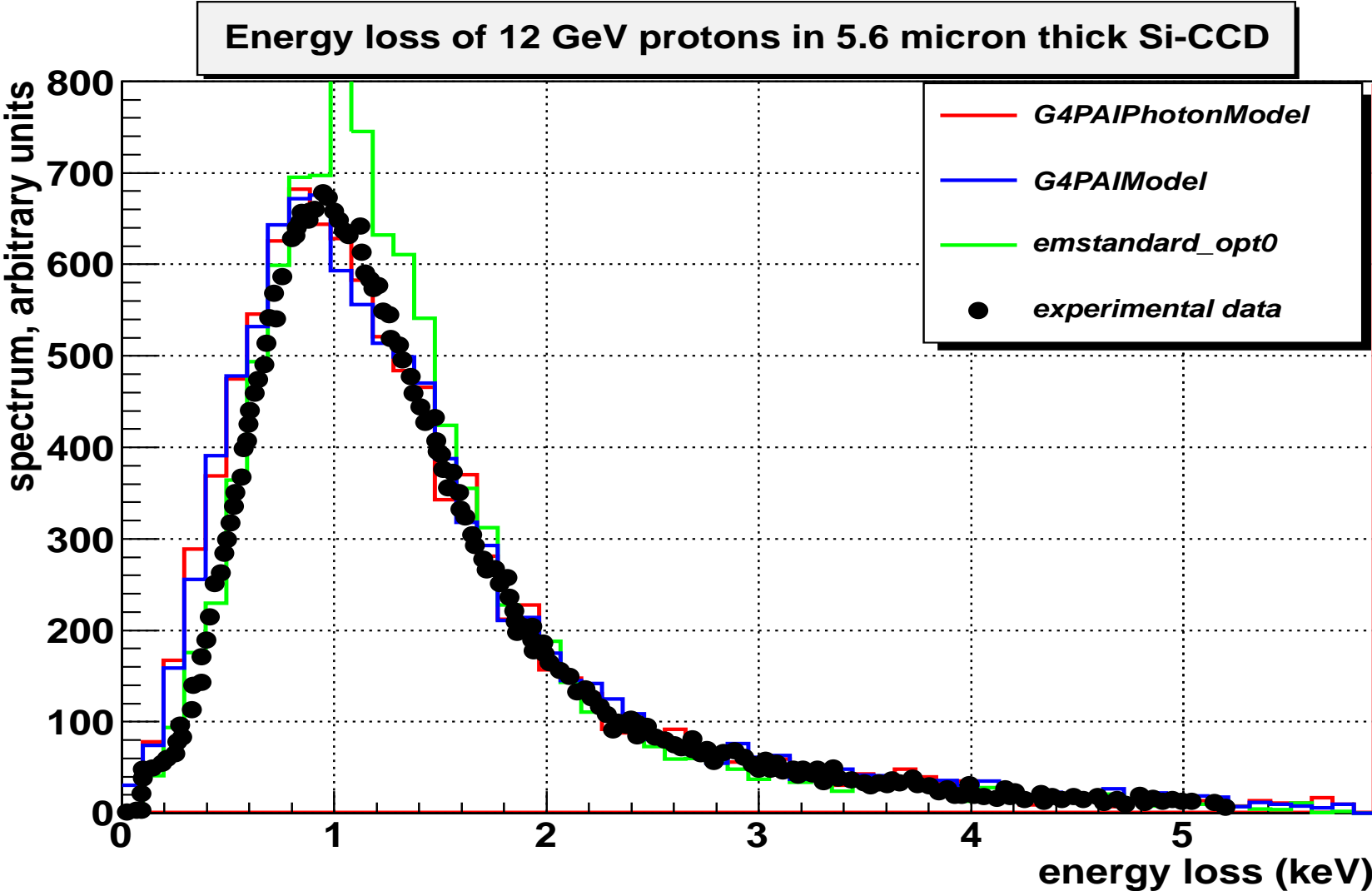
Cut 1 mm.



Cut 5 micron.



Cut 1 mm.



Cut 5 micron.

2 Conclusions

1. The GEANT4 PAI/PAIPhoton ionisation models are in good agreement with the thin Si CMOS sensor data.
2. The GEANT4 standard ionisation models is in satisfactory agreement with the thin Si CMOS sensor data. It shows some cut dependence.

References

- [1] S. Meroli, D. Passeri, and L. Servoli, JINST 6 (2011) P06013