

**The Pulsed Polarized Electron Source For
Nuclear Physics Experiments at AmPS,**

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A.S. TEREKHOV, A.S. GILINSKY, ISP - The polarized electron source of the NIKHEF accelerator facility AmPS is described. The facility consists of an electron linac and a 900 MeV storage ring. It is in use for nuclear physics experiments with internal gas targets. Spin polarized electrons with an energy of 100 keV are obtained by photoemission from cathodes made of III-V-semiconductor crystals. With a Z-shape spin manipulator the electron spin can be oriented in any angle. The manipulator allows to compensate for the spin precession in the linac and its beam switch yard magnets before injection of the beam into the AmPS storage ring. The beam polarization degree of the source is measured by a Mott-polarimeter installed after the Z-manipulator. The source delivers 2 us long beam pulses with a repetition rate of 1 Hz. With strained layer InGaAsP photocathodes a current of 120 mA with a polarization degree of 80% has been obtained. By pulsing the 100 kV power supply of the gun a photocathode lifetime of 200 hours has been achieved.

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