Acceleration of Polarized Electrons in ELSA, W.V. DRACHENFELS, F. FROMMBERGER, D. HUSMANN, M. HOFFMANN, J. KEIL, S. NAKAMURA, C. STEIER, Physics Institute of Bonn University - The stretcher ring ELSA at Bonn University provides external electron beams with high duty factor in the energy range between 0.5 and 3.5 GeV. New medium energy physics experiments starting in 1998 (e.g. to measure the GDH-sumrule) will require a polarized electron beam. The polarized electrons are produced in a dedicated source using the photo effect with circularly polarized laser light on a GaAs superlattice crystal. To conserve the polarization degree throughout the energy ramp up to maximum beam energy it is necessary to cross and correct for several depolarizing resonances. Recently polarized electrons have been accelerated up to 2.0 GeV. achieved polarization degree is sufficient for the planned experiments. Details of the measurements concerning depolarizing resonances are given and compared to simulations with emphasis on the effects due to synchrotron radiation.