Method for laser-induced polarimetry of phase anisotropy of biological tissues of deceased persons with fibrillar architectonics for detecting blood loss volume is carried out by mapping laser microscopic images of fibrillar tissues and algorithmic reconstruction of laser-induced intensity maps of polycrystalline architectonics of fibrillar networks by measuring coordinate distributions of secondary object intensity. Wherein to assess changes in phase anisotropy maps of a microstructure of fibrillar polycrystalline networks, samples of native histological sections of fibrillar tissues, namely rectus abdominis muscle and skin, are placed in an optical channel of a laser Stokes polarimeter with four polarization channels: a plane-polarized state with azimuths of 0°, 90°, 45°, and a circularly ⊗ polarized state of laser-induced probing. For each polarization state, a sample of a native histological section of fibrillar tissue is irradiated with a laser-induced beam. In turn, a polarization image is projected by a micro-objective onto a plane of photosensitive pixels of a digital camera through six channels: linear polarization with azimuths of 0°, 90°, 45°, 135°; and right- and left-circular ⊕, ⊗ polarization; and polarization analysis is performed and registered sequentially by photosensitive pixels of the digital camera. Furthermore, algorithmic reproduction of phase anisotropy maps is performed as a coordinate distribution of linear and circular birefringence of a microstructure of polycrystalline architectonics of samples of biological tissues with fibrillar architectonics, which are evaluated by calculating central statistical moments of 1st-4th orders, by values of which a blood loss volume of deceased persons is judged.