Method for laser-induced polarimetry of phase anisotropy of dehydrated blood films of deceased persons for detecting blood loss volume is carried out by mapping laser microscopic images of biological layers and algorithmic reconstruction of laser-induced intensity maps of polycrystalline architectonics of supramolecular networks by measuring coordinate distributions of secondary object intensity. Wherein to assess changes in phase anisotropy maps of a microstructure of supramolecular polycrystalline networks, samples of dehydrated blood films are placed in an optical channel of a laser Stokes polarimeter with four polarization channels with corresponding polarization states: plane-polarized states with azimuths of 0°, 90°, 45°, and a circularly polarized state of a ⊗ laser-induced probing laser beam, which irradiates a sample of a dehydrated blood film. A laser-induced polarization image of a microstructure of supramolecular polycrystalline networks is obtained by a micro-objective and is further projected onto a plane of photosensitive pixels of a digital camera through six channels with corresponding polarization states: linear polarization with azimuths of 0°, 90°, 45°, 135°; and right- and left-circular polarization of the ⊕, ⊗ laser-induced probing laser beam. Furthermore, polarization analysis is used and photosensitive pixels of the digital camera are registered sequentially in accordance with an algorithmic reproduction of phase anisotropy maps of a microstructure of polycrystalline architectonics of samples of dehydrated blood films, which are evaluated by calculating central statistical moments of 1st-4th orders, by values of which a blood loss volume is judged.