Claims

1. Miniature spectrometer comprising
   - an optical system;
   - a polarisation interferometer, comprising of a polariser, a Savart element and an analyser;
   - a detection unit, comprising of a detector and a data unit;

   characterised in that the optical system is configured as a diffuser, wherein the diffuser ensures utilization of an acceptance angle of the Salvart element and the diffuser is arranged on the polarizer of the polarization interferometer.

2. Miniature spectrometer according to claim 1, **characterised in that** the detection unit has focusing optics, wherein the focusing optics is arranged in a ray path between the polarisation interferometer and the detector.

3. Miniature spectrometer according to one of the preceding claims, **characterised in that** the miniature spectrometer has a light source.

4. Miniature spectrometer according to one of the preceding claims, **characterised in that** the data unit comprises a reference database.

5. Miniature spectrometer according to one of the claims 1 to 3, **characterised in that** the data unit is configured as communication interface for data transmission between the miniature spectrometer and an external evaluation element

comprising a reference database and a data processing unit.

6. Miniature spectrometer according to one of the preceding claims, **characterised in that** the detector is configured as one-dimensional sensor matrix.

7. Miniature spectrometer according to one of the claims 1 to 5, **characterised in that** the detector is configured as two-dimensional sensor matrix.

8. Miniature spectrometer according to one of the preceding claims, **characterised in that** the optical system is a directed diffuser, wherein the directed diffuser is adapted to an opening angle of the Savart element.

9. Method for identification of a spectrum of radiation reflected, transmitted or emitted by an object by means of a miniature spectrometer according to one of the preceding claims.