

## 2 Design and Operation

### 2.1 Design

The grazing incidence attachment consists of four parts:

- Collimator block (containing the Soller slit)
- Foot of collimator block
- Monochromator block
- Detector holder

The attachment can be operated with or without monochromator.

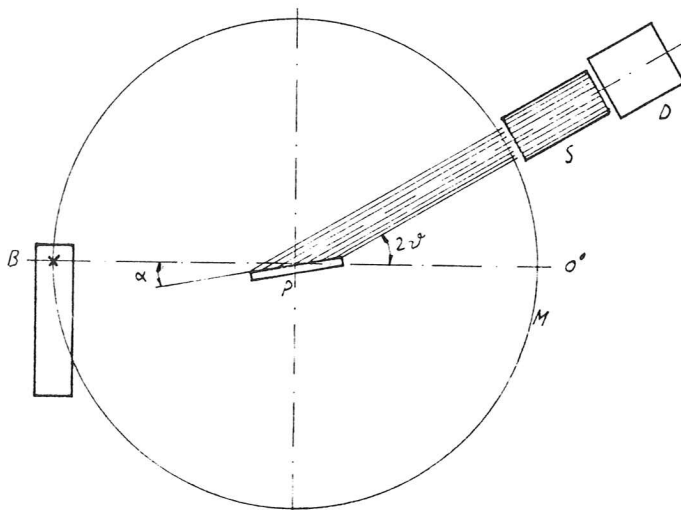
### 2.2 Operation

The grazing incidence attachment can be used for specimen analysis in the following three operating modes:

- Operation without monochromator
- Operation with monochromator with parallel beam path
- Operation with monochromator with anti-parallel beam path

The pictures below show the basic principle of operation. It should be noted that the incidence angle  $\alpha$  of the X-ray beam on the specimen is very small ( $0.1^\circ < \alpha < 3^\circ$ ).

#### 2.2.1 Operation without Monochromator



- B Focal spot of X-ray tube
- S Soller slit
- D Detector
- M Measuring circle
- $2\theta$  Diffraction angle
- P Specimen

Figure 1

Operation without monochromator gives relative high intensity but poor resolution.