According to another aspect, there is provided a dichroic beam splitter, comprising a first and a second prism which are connected to one another on the base surfaces thereof, and a dichroic layer arranged between the base surfaces of the two prisms, wherein an entry surface of the first prism, on which a radiation is incident, encloses an angle (β) in the range from 10° to < 40° with the dichroic layer wherein a reflected partial radiation is reflected on the dichroic layer in the direction of an exit surface of the first prism and a transmitted partial radiation is transmitted through the dichroic layer. The beam splitter has a base surface in the form of a regular hexagon.

Further advantages and details of the invention will become apparent from the following description of preferred embodiments with reference to the accompanying drawing.

Fig. 1 shows an arrangement according to the invention for examining a sample which can be excited by means of electromagnetic radiation;

Fig. 2 shows a modified embodiment of the arrangement suitable for measuring glucose concentrations;

Fig. 3 shows details of a modified embodiment of the arrangement for examining a sample which can be excited by means of electromagnetic radiation.

- an absorber (18),

- a beam deflecting unit, or

- a second dichroic beam splitter (22) which corresponds in its construction to the first dichroic beam splitter (02).

5. The arrangement (01) according to one of claims 1 to 4, characterized in that a lens (17) is attached to the exit surface (11) of the first prism (03a), which lens (17) couples the radiation (09) exiting into an optical fiber (20), and in that the sample (10) is positioned at the end of the optical fiber (20).

6. The arrangement (01) according to claim 4, characterized in that a beam deflecting unit (27) is attached to the exit surface (11) and which has at least one first optical surface (28) which deflects the radiation exiting at the exit surface (11) to an optical fiber (20).

7. The arrangement (01) according to claim 6, characterized in that the first optical surface (28) has a toric shape.

8. The arrangement (01) according to claim 6 or 7, characterized in that the beam deflecting unit (27) deflects the electromagnetic radiation by 90°.

9. The arrangement (01) according to one of claims 4 to 7, characterized in that the beam deflecting unit (27) consists of glass or plastic.

10. A dichroic beam splitter (02), comprising a first and a second prism (03a, 03b) which are connected to one another on the base surfaces thereof, and a dichroic layer (04) arranged between the base surfaces of the two prisms (03a, 03b), wherein an entry surface (06) of the

first prism (03a), on which a radiation (07) is incident, encloses an angle (β) in the range from 10° to <40° with the dichroic layer (04) wherein a reflected partial radiation (09) is reflected on the dichroic layer (04) in the direction of an exit surface (11) of the first prism (03a) and a transmitted partial radiation (12) is transmitted through the dichroic layer (04), and wherein the beam splitter (02) has a base surface in the form of a regular hexagon.

11. The dichroic beam splitter (02) according to claim 10, characterized in that the entry surface (06) of the first prism (03a) encloses an angle (β) in the range of 25° to 35° with the dichroic layer (04) and the exit surface (11) of the first prism (03a) encloses an angle (γ) in the range of 25° to 35° with the dichroic layer (04).

12. The dichroic beam splitter (02) according to claim 10 or 11, characterized in that the dichroic layer (04) consists of dielectric material.

13. The dichroic beam splitter (02) according to one of claims 10 to 12, characterized in that it comprises two prisms (03) of the same type.

14. The arrangement (01) according to claim 4, characterized in that the first and, optionally, the second dichroic beam splitter (02, 22) are configured according to one of claims 10 to 13.