

Title (en)
RAPID SHAPE RECONSTRUCTION OF OPTICAL FIBERS

Title (de)
SCHNELLE FORMREKONSTRUKTION VON GLASFASERN

Title (fr)
RECONSTRUCTION DE FORME RAPIDE DE FIBRES OPTIQUES

Publication
EP 2568865 A1 20130320 (EN)

Application
EP 11716306 A 20110330

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Abstract (en)
[origin: WO2011141830A1] An optical sensing system (10) employs a flexible optical fiber (30) and a optical fiber controller (40). The optical fiber (30) includes a deformation optic sensor array (31) having a proximal endpoint (31p) and a distal endpoint (31d), and may be adjoined to a medical device (20) for generating encoded optical signal (32) indicative of a change in a shape of the optical fiber (30) responsive to movement of the medical device (20) within a defined space. The optical fiber controller (40) utilizes the encoded optical signal (32) for reconstructing a portion or an entirety of a shape of the optical fiber (30) between the proximal endpoint (31p) and the distal endpoint (31d). To this end, the optical fiber controller (40) segments the optical fiber (30) into an anchor fiber segment and an active fiber segment relative to an anchor point having a fixed sampling location within the defined space as designated by the optical fiber controller (40).

IPC 8 full level
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