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(54) Title: SCANNING ENDOSCOPE

(57) Abstract: A scanning endoscope amenable to both rigid and flexible forms, scans a beam of light across a field-of-view, collects light scattered from the scanned beam, detects the scattered light, and produces an image. The endoscope may comprise one or more bodies housing a controller, light sources, and detectors; and a separable tip housing the scanning mechanism. The light sources may include laser emitters that combine their outputs into a polychromatic beam. Light may be emitted in ultraviolet or infrared wavelengths to produce a hyperspectral image. The detectors may be housed distally or at a proximal location with gathered light being transmitted thereto via optical fibers. A plurality of scanning elements may be combined to produce a stereoscopic image or other imaging modalities. The endoscope may include a lubricant delivery system to ease passage through body cavities and reduce trauma to the patient. The imaging components are especially compact, being comprised in some embodiments of a MEMS scanner and optical fibers, lending themselves to interstitial placement between other tip features such as working channels, irrigation ports, etc.



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