

ABSTRACT

Optical device for applying a real delay to a radio-electric signal and application in the formation of transmission and reception beams with an active antenna.

The present invention relates to the general field of optical links, and more particularly to that of delay-generating optical devices.

The invention consists mainly of a device comprising an assembly of delay-generating cells, as well as an assembly of optical switches, arranged so as to constitute a train of delay-generating cells joined together by way of optical switches. Each of the delay-generating cells consists mainly of a segment of non-dispersive optical fiber and at least one segment of dispersive optical fiber, the two segments being independent. Each switch which interlinks two delay-generating cells is configured in such a way that as a function of the command applied to it, it links one of the two optical fiber segments constituting one of the cells considered to one or the other of the two optical fiber segments constituting the other cell. The device makes it possible to apply a delay of given controlled value to a light wave applied to its input, the delay being dependent on the wavelength of the wave considered.

The device according to the invention can advantageously be used to generate a true delay of given value to a radioelectric signal modulating a light wave applied to the input of the device.

Figure 5a



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