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Tanaka et al. (43) **Pub. Date: Jul. 20, 2023**(54) **OPTICAL PATH DESIGN APPARATUS,
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CPC *H04W 40/04* (2013.01); *H04B 10/114*
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INUZUKA**, Musashino-shi, Tokyo (JP);
Takuya ODA, Musashino-shi, Tokyo
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Musashino-shi, Tokyo (JP)(57) **ABSTRACT**

An optical path design device includes: a search unit configured to search for one or more route possibilities from a start point to an end point in an optical network including one or more transmission paths as links and a plurality of node devices as nodes on the basis of topology information of the optical network, information on the start point, and information on the end point; a time derivation unit configured to derive available time which is time at which a frequency band including one or more frequency slots becomes available for communication for each of the transmission paths or the node devices included in the route; and a design unit configured to select the route from the one or more route possibilities that have been searched for on the basis of the available time derived for each of the transmission paths or the node devices and select a frequency band of an optical signal to be transmitted through an optical path in the selected route.

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