

Review of: "A 400-Gb/s WDM-PAM4 OWC system through the free-space transmission with a water-air-water link"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

In this manuscript, a 400-Gb/s WDM PAM4 OWC system through a 200-m free-space transmission with either a piped water-or a turbid water water link is described. The structure idea is very novel. Nevertheless, a revision would further improve the quality of this article. I recommend to publish this manuscript with major revision.

1. I suggest that the the basic performance of the used red/blue LD including L-I-V curve, optical spectrum and frequency response can be exhibited. It is necessary because the PAM-4 data is directly modulated by the red/blue LD.
1. Please provide the equalizer type for the PAM-4 data
1. What is the function of the SLM in this structure? According to the reference of the SLM obtained from this manuscript, the SLM is used for divided the optical carriers with difference wavelength in a WDM network However, there is only one-wavelength optical carrier (405 or 660 nm) employed in different water tanks. Please comment the function of the SLM in this structure.
1. Is it a commercial or home-made APD? It is hard to find an APD with 25-GHz bandwidth and 32-A/W conversion. Please provide the datasheet or website of this employed APD.