

Bufferless all-optical networking with erasure codes¹

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Abstract — The lack of viable designs for an optical buffer makes all-optical packet switched networking a challenging problem. One systems level idea to deal with this issue is to use erasure codes at the packet level, together with deflection routing whenever packets contend for a destination. There is an important trade-off in the use of such codes : low rate coding allows for session level recovery from more packet losses, but also involves higher packet rates, which causes more erasures on competing streams. Some novel information theoretic problem formulations motivated by this trade-off will be discussed. In keeping with the notion of a workshop, this is work in progress.

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