

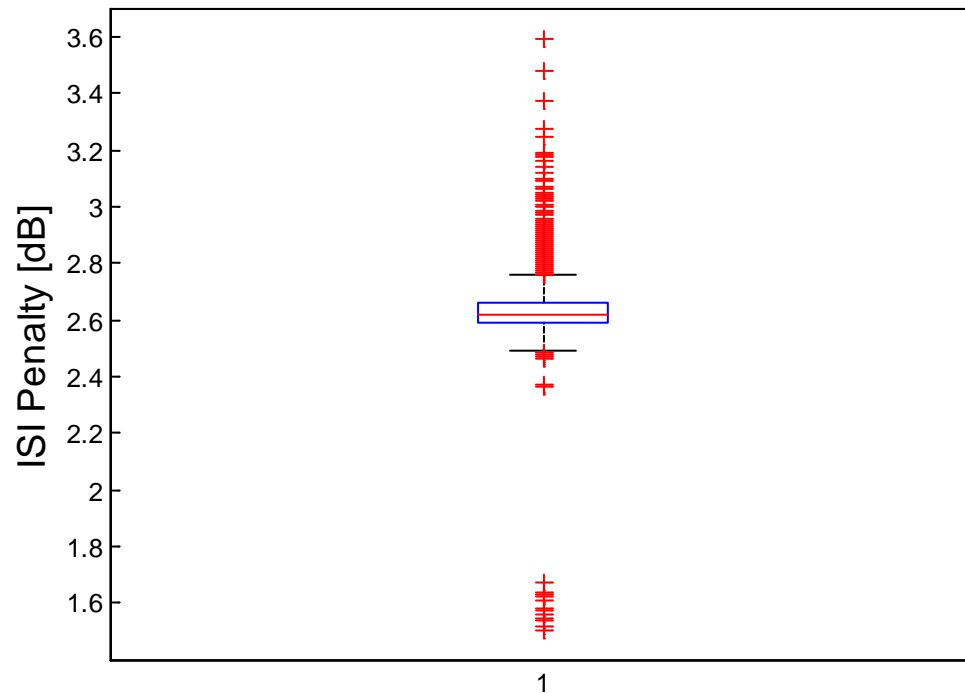
Modal Noise Penalty Calculation

Petar Pepeljugoski

Approach

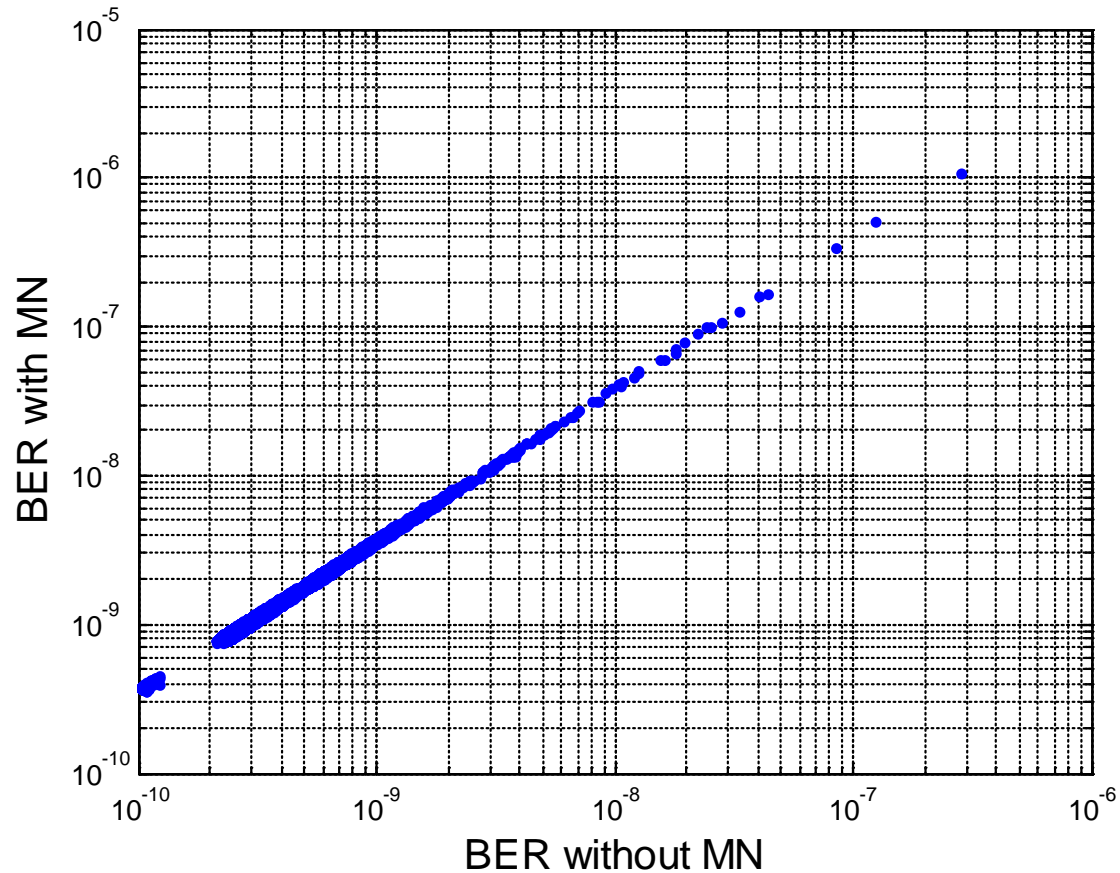
- Modal noise theory has been developed many years ago
- Applied in recent standards (IEEE 802.3aq) and assess the eye opening in 850nm links
- Use statistical link model developed for OM3 fiber with parameters proposed in 802.3bm

ISI Penalty Distribution



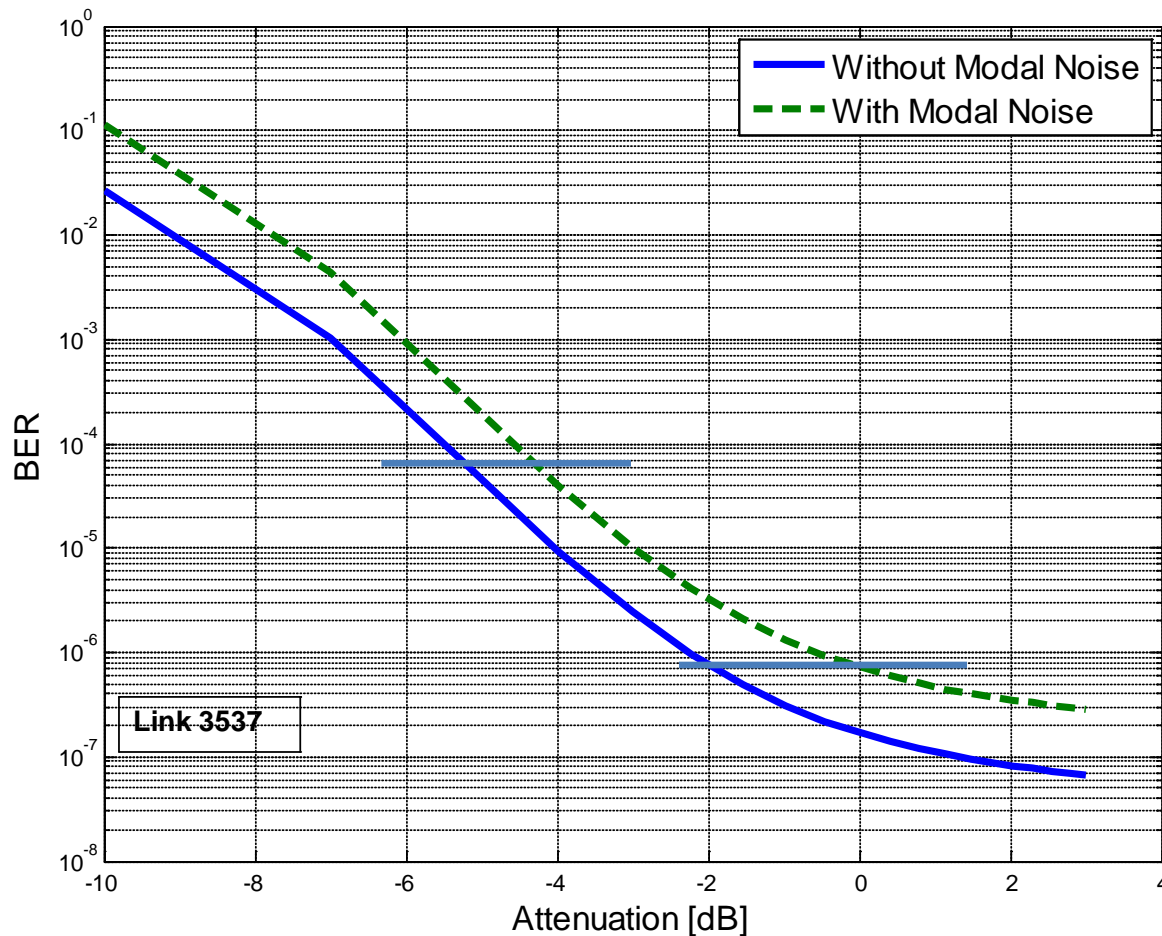
BER Distribution For All Links

- No failures.....



Links with BER floor

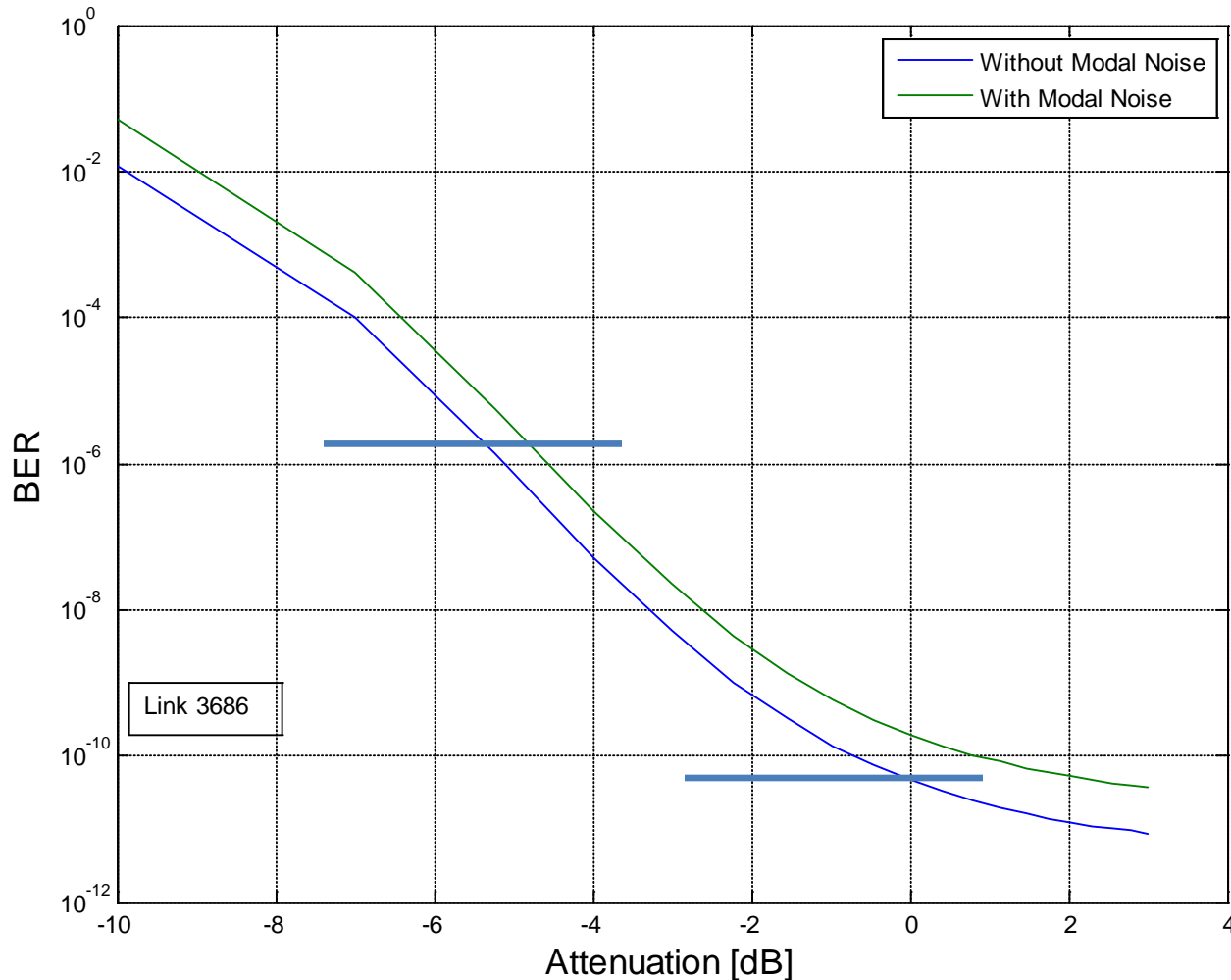
- Link 3537: ISI 3.59 dB



Link 3537

Another example

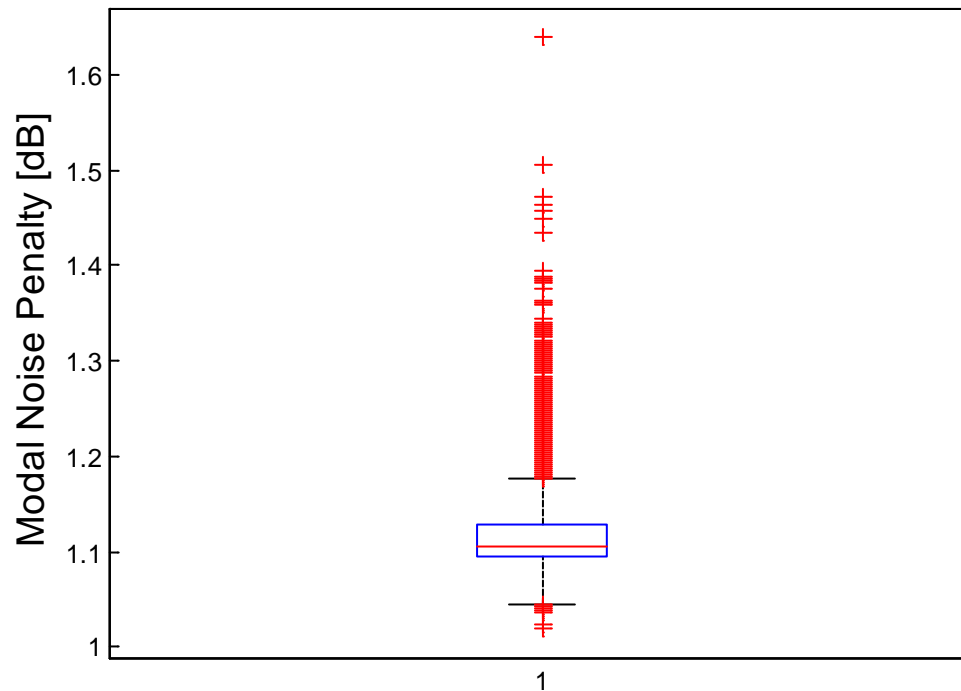
- Link 3686: ISI 2.57 dB



Link 3686

Modal Noise Penalty Distribution (Taking Into Account BER floor)

- Penalty is large, but is that supposed to be a measure?



Modal Noise Penalty Distribution (Assuming No BER Floor)

- Penalty is small and what we expect, but is this correct?

