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## Interacting Double Coset Magnons

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**Abstract content**   
 (Max 300 words)   
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Anomalous dimensions of operators in  $N = 4$  super Yang-Mills theory in the large  $N$  limit, are evaluated. The operators considered have a classical dimension of order  $N$  and are constructed using complex matrices  $Y$  and  $Z$ . Non-planar diagrams contribute already at the leading order in  $N$  and the planar and large  $N$  limits are distinct. The number of  $Y$  fields  $m \sim O(N)$  is much smaller than the number of  $Z$  fields  $n$  used to construct the operators. The ratio  $m/n$  is thus a small parameter that can be used to organize a systematic expansion. A major goal of this study is to develop this expansion and we succeed in computing the first subleading order. Our system can be mapped to an integrable model at leading order. The subleading terms spoil the identification with an integrable system.

**Apply to be considered for a student award (Yes / No)?**

Yes

**Level for award (Hons, MSc, PhD, N/A)?**

PhD

**Main supervisor (name and email) and his / her institution**

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**Would you like to submit a short paper for the Conference Proceedings (Yes / No)?**

No

**Please indicate whether this abstract may be published online (Yes / No)**

Yes

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