

# Fusing Defect for $N = 1$ Supersymmetric sinh Gordon model

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We have derived a type-II integrable defect for the  $N = 1$  supersymmetric sinh-Gordon (sshG) model by using the fusing procedure. Therefore, we showed that the type-II defect derived for the sshG model can be obtained by fusing two defects of the kind previously derived in [1].

In view of the results, it should be interesting to consider the possibility of finding supersymmetric extensions of the type-II defects for other models with extended supersymmetry, for instance the  $N = 2$  sshG equation. Associated integrable defects could be found as a results of the fusing defects of the kind already known [2]. This question is expected to be developed in future investigations.

## References

- [1] J.F. Gomes, L.H. Ymai, and A.H. Zimerman, *Classical integrable super sinh-Gordon equation with defects*, J. Phys. A : Math. Gen. **39** (2006) 7471 [[hep-th/0601014](#)].
- [2] J.F. Gomes, L.H. Ymai and A.H. Zimerman, *Integrability of a classical  $N = 2$  super sinh-Gordon model with jump defects*, JHEP **03** (2008) 001 [[hep-th/0710.1391](#)].