

Abstract Submitted  
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**Weak indices and dislocations in general topological band structures** YING RAN, Boston College — It has recently been shown that crystalline defects - dislocation lines - in three dimensional topological insulators, can host protected one dimensional modes propagating along their length. We generalize this observation to the case of topological superconductors and other insulators of the Altland Zirnbauer classification, in  $d=2,3$  dimensions. In general, protected dislocation modes are controlled by the topological indices in  $(d-1)$  dimensions. This is shown by relating this feature to characteristic properties of surface states of these topological phases. This observation also allows us to constrain these surface states properties, which is illustrated by an addition formula for  $(d-1)$  and  $(d-2)$  indices of a topological superconductor.

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