



## **Solar and stellar applications of the Tayler instability**

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The solar tachocline probably hosts toroidal magnetic fields which may eventually become unstable for several reasons, one being the current-driven Tayler instability. An overview of the current state of research on the instability is given. The prospects of a dynamo effect as was suggested to be suitable for radiative zones, are also discussed. The dynamo effect is measured in terms of an alpha-effect. The Tayler instability has also implications for the existence of magnetic fields in more massive stars, such as magnetic Ap stars. The magnetism of Ap stars will be explained as a result of the Tayler instability.