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## Properties and evolution of quiet sun magnetic fields

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**Abstract.** Although internetwork fields have been known for decades, it is only now that we are starting to understand their physical properties and the processes that bring them to the quiet solar surface. Significant progress has been made in the last years thanks to high-sensitivity, high-resolution spectropolarimetric measurements from the ground and from space. In this talk I will summarize recent efforts to characterize the distribution of magnetic fields and flux emergence events in the quiet Sun. The picture that arises from these investigations is one of weak fields filling a non-negligible fraction of the resolution element, with nearly horizontal (possibly isotropic) inclinations. They emerge into the solar surface above granules, in the form of concentrated flux patches and small-scale magnetic loops. While the former disappear rapidly from view, about 25% of the latter are able to rise to the chromosphere, where they may deposit a significant amount of magnetic energy. The origin of these fields and their exact contribution to chromospheric heating are important questions that remain unanswered.