Reading Project

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The reading project will involve studying some topics from either *Geometric Nonlinear Waves* by Shatah and Struwe, AMS publications or some chapters from the book on Harmonic Analysis by E. M. Stein (Princeton Press 1990). The focus of these readings will be to build on Math 501, Math 502, Math 507 and go to advanced topics. It will be an advantage if the student has taken Math 521, which is the standard Harmonic analysis course and is also familiar with some basic PDE like in Math 517. Students who do not have a PDE background but have a strong background in Real Analysis can be directed to Stein’s book with a directed focus on issues related to Harmonic Analysis. The book by Shatah and Struwe is a book which highlights issues with an interplay between Harmonic Analysis and PDE. Thus the topics will be chosen depending on the background of the student. I would prefer a slower paced reading as completing things in a month etc is probably difficult given students have teaching duties and perhaps other courses to attend to in a given semester.