

Advanced Seismology (GPGN651)
Fall 2006, 3 credit hours

Instructor: Prof. Ilya Tsvankin

The course is designed to introduce students to modern seismology of anisotropic and heterogeneous media. The students will gain understanding of wave propagation in general anisotropic media and develop physical intuition through a detailed study of the relatively simple transversely isotropic model. Among the main topics are seismic signatures for transversely isotropic and orthorhombic media, properties of the anisotropic Green's function, basics of reflection seismic processing in the presence of anisotropy, and seismic fracture characterization. The main textbook is instructor's monograph "Seismic signatures and analysis of reflection data in anisotropic media" (Elsevier Science, 2005).

Prerequisite: consent of instructor. Understanding of the theory of elasticity and seismic sources (within the scope of the introductory seismology courses GPGN552 and GPGN553) would be very helpful, although some of the necessary prerequisite information will be reviewed during the course.

Schedule: Tuesday and Thursday, 2:00 – 3:15 p.m., room GC263.

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