

- [4] Curtis, J.B., Fractured Shale-Gas Systems. AAPG Bulletin, 2002, 86(11): 1921-1938.
- [5] Lazar, O.R., K.M. Bohacs, J.H.S. Macquaker, J. Schieber, T.M. Demko, Capturing Key Attributes of Fine-Grained Sedimentary Rocks In Outcrops, Cores, and Thin Sections: Nomenclature and Description Guidelines. Journal of Sedimentary Research, 2015, 85(3): 230-246.
- [6] Slatt, R.M., Y. Abousleiman, Merging sequence stratigraphy and geomechanics for unconventional gas shales. Leading Edge, 2011, 30(3): 274-282.
- [7] Sondergeld, C.H., C.S. Rai, Elastic anisotropy of shales. Leading Edge, 2011, 30(3): 324-331.
- [8] Sone, H., M.D. Zoback, Mechanical properties of shale-gas reservoir rocks — Part 1: Static and dynamic elastic properties and anisotropy. Geophysics, 2013, 78(5): D378-D389.
- [9] Sone, H., M.D. Zoback, Mechanical properties of shale-gas reservoir rocks — Part 2: Ductile creep, brittle strength, and their relation to the elastic modulus. Geophysics, 2013, 78(5): D390-D399.
- [10] Fjær, E., O.-M. Nes, The Impact of Heterogeneity on the Anisotropic Strength of an Outcrop Shale. Rock Mechanics and Rock Engineering, 2014, 47(5): 1603-1611.
- [11] Vervoort, A., K.B. Min, H. Konietzky, J.W. Cho, B. Debecker, Q.D. Dinh, T. Frühwirth, A. Tavallali, Failure of transversely isotropic rock under Brazilian test conditions. International Journal of Rock Mechanics & Mining Sciences, 2014, 70(70): 343-352.
- [12] Kim, H., J.W. Cho, I. Song, K.B. Min, Anisotropy of elastic moduli, P-wave velocities, and thermal conductivities of Asan Gneiss, Boryeong Shale, and Yeoncheon Schist in Korea. Engineering Geology, 2012, 147-148(5): 68-77.
- [13] Cho, J.W., H. Kim, S. Jeon, K.B. Min, Deformation and strength anisotropy of Asan gneiss, Boryeong shale, and Yeoncheon schist. International Journal of Rock Mechanics & Mining Sciences, 2012, 50(2): 158-169.
- [14] Niandou, H., J.F. Shao, J.P. Henry, D. Fourmaintraux, Laboratory investigation of the mechanical behaviour of Tournemire shale. International Journal of Rock Mechanics & Mining Sciences, 1997, 34(1): 3-16.
- [15] 李阿偉, 趙衛華, 李浩涵, 孟凡洋, 孫東生, 湘西桑頁1井葉岩彈性波速實驗研究. 地球學報, 2016, 37(3): 333-339.
- [16] 張永澤, 劉俊新, 冒海軍, 霍亮, 侯振坤, 單軸壓縮下葉岩力學特性的各向異性試驗研究. 金屬礦山, 2015, (12): 33-37.



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CCD是一種半導體器件，能夠把光學影像轉化為數位信號。CCD上植入的微小光敏物質稱作圖元（Pixel）。一塊CCD上包含的圖元數越多，其提供的畫面解析度也就越高。CCD的作用就像膠片一樣，但它是把圖像圖元轉換成數位信號。

Filter 濾波

是將信號中特定波段頻率濾除的操作，是抑制和防止干擾的一項重要措施。