ABSTRACK

STUDY SPECTRAL ANALYSIS OF TIDE FREQUENCIES
(Case study: tide observation from Station of Tanjung Priok)

OLEH

SARWIN

The tides are the process of ups and downs of seawater periodically posed the existence style attraction of celestial bodies, which most notably caused by gravitational forces of the Sun and the Moon pull style of water masses of the Earth.

Tidal oscillations can be described as a combined result of a number of components of the tide harmonics (harmonic constituents). Doodson developed a simple method to determine the components (constituents), Principal Main of the Lunar tides (M2), the Principal Solar (S2), a Large Lunar Elliptic (N2), Lunar-Solar (K2), Luni Solar Diurnal (K1), a Principal Lunar Diurnal (O1), Principal Lunar Diurnal (P1), Shallow Sea Components (M4), and Shallow Sea Components (MS4), using tidal observations data length of 15 and 29 days with hourly observations.

Commonly, in tide analysis, the most of researchers use 9 tide harmonic constituents. But in this study, spectral analysis method is used to generate tidal frequencies. Tide data from the station of Tanjung Periok is used to study frequencies of tide harmonics. In the analysis, data length of 15 (fifteen) days and thirty (30) days are used. From the results are presented that tidal constituents from station of Tanjung Priok having 7 dominant constituents for the data of 15 days (K1, O1, P1, M2, S2, N2, K2) and 6 dominant constituents for the data of 30 days (K1, O1, P1, M2, S2, K2).

Keywords : tides, spectral analysis, Tanjung Priok