INTISARI

Pengukuran angkutan sedimen suspensi cukup kompleks karena melibatkan berbagai parameter yang saling terkait sehingga menimbulkan berbagai metode penentuan konsentrasi secara empiris. Namun metode-metode tersebut belum terlalu bisa diandalkan dibandingkan metode pengukuran langsung dilapangan. Penelitian terhadap angkutan suspensi menjadi penting guna mengevaluasi tingkat kesalahan maupun tingkat penyimpangan dari pengambilan sampel sedimen suspensi di lapangan.

Penelitian ini menggunakan data primer dan data sekunder. Data primer berupa data pengukuran lapangan yang dilakukan pada rentang waktu Maret-April 2015, sedangkan data sekunder berasal dari penelitian yang dilakukan oleh Sjarbainy (2006). Penelitian ini didasarkan pada data pengukuran di Selokan Mataram, Yogyakarta dengan kondisi batas aliran seragam saluran terbuka tampang trapesium. Data primer menghasilkan total 63 *running*, sedangkan data sekunder menghasilkan total 70 *running*, dimana *running* adalah data distribusi per pias vertikal terhadap tampang saluran.

Analisis perhitungan yang dilakukan meliputi : nilai konsentrasi sedimen suspensi rata-rata vertikal kedalaman $(\overline{C}_y)$; nilai konsentrasi sedimen suspensi rata-rata vertikal berdasarkan pengambilan sampel 1 titik $(\overline{C}_{1titik})$, 2 titik $(\overline{C}_{2titik})$, dan 3 titik $(\overline{C}_{3titik})$; nilai kecepatan aliran rata-rata vertikal kedalaman $(\overline{U}_y)$; nilai kecepatan aliran rata-rata vertikal berdasarkan pengambilan sampel 1 titik $(\overline{U}_{1titik})$, 2 titik $(\overline{U}_{2titik})$, dan 3 titik $(\overline{U}_{3titik})$. Hasil analisis memperlihatkan bahwa rata-rata prosentase penyimpangan pengukuran 1, 2, dan 3 titik terhadap nilai konsentrasi sedimen suspensi rata-rata kedalaman berkisar : 4,312% untuk pengukuran 1 titik, 1,503% untuk pengukuran 2 titik, dan 1,404% untuk pengukuran 3 titik. Sedangakan rata-rata prosentase penyimpangannya terhadap nilai kecepatan aliran rata-rata kedalaman berkisar : 3,782% untuk pengukuran 1 titik, 2,055% untuk pengukuran 2 titik, dan 2,615% untuk pengukuran 3 titik.

Kata kunci : *point and depth integrated sampling*, konsentrasi sedimen suspensi, kecepatan aliran rata-rata

ABSTRACT

Measurements of sediment transport suspension are quite complex because it involves a variety of parameters which are interrelated, causing various methods of determining the concentration empirically. However, these methods have not been too reliable than direct measurement methods in the field. Research into the transport suspension becomes important to evaluate the error rate or level of deviation from the suspended sediment sampling in the field.

This study uses primary data and secondary data. Primary data is data field measurements conducted in the period from March to April 2015, while secondary data derived from research conducted by Sjarbainy (2006). The research is based on the measurement data in Mataram Channel, Yogyakarta with the boundary conditions of uniform flow open channel with a trapezoid shape. The primary data resulted in 63 runnings code, while secondary data resulted of 70 runnings code, where the runnings code are vertical distribution for broad unity for crosssection of channel

Analysis calculations are performed include: suspension of sediment concentration values an average vertical depth $(\overline{C}_y)$; sediment concentration value of the average vertical suspension by sampling 1 point $(\overline{C}_{1titik})$, 2 points $(\overline{C}_{2titik})$, and 3-point $(\overline{C}_{3titik})$; the value of the flow rate of the average vertical depth $(\overline{U}_y)$; the value of the flow rate of the average vertical by sampling 1 point $(\overline{U}_{1titik})$, 2 points $(\overline{U}_{2titik})$, and 3-point $(\overline{U}_{3titik})$. The results show that the average percentage deviation measurement 1, 2, and 3 points to the value of sediment concentration suspension average depth ranges: 4.312% for the measurement of 1 point, 1.503% for the measurement of 2 points, and 1.404% for the measurement of 3 point. While the average percentage deviation of the value of the average flow velocity depth ranges: 3.782% for the measurement of 1 point, 2.055% for the measurement of 2 points, and 2.615% for the measurement of 3 point.

Keyword : point and depth integrated sampling, sediment suspension concentration, average velocity flow