

ABSTRAK

PERBANDINGAN PENGUKURAN BATAS BIDANG TANAH MENGGUNAKAN GNSS RTK-NTRIP (BASE CORS ULPC) DAN RTK-RADIO (BASE LOKAL)

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Penggunaan teknologi GNSS berkembang sangat cepat. Saat ini Badan Informasi Geospasial (BIG) dan Badan Pertanahan Nasional (BPN) sudah memiliki stasiun GNSS CORS (*Continuously Operating Reference Station*), yaitu seperangkat peralatan GNSS yang beroperasi secara continu yang dapat memberikan informasi yang dapat digunakan untuk penentuan posisi secara *real-time* maupun *post prosesing*. Pengukuran batas bidang tanah yang dilakukan BPN sering menggunakan metode RTK-Radio dengan base lokal. Peta bidang tanah hasil pengukuran menggunakan RTK-Radio base lokal, nantinya akan digeser secara grafis. Perlu dikaji apakah nilai pergeseran dan perbedaan luasnya masuk batas toleransi yang diizinkan (berdasarkan juknis PTSL 01/juknis-300/2016).

Pengukuran batas bidang tanah dilakukan menggunakan dua metode pengukuran RTK-NTRIP base CORS dan RTK_Radio base lokal. selanjutnya hasil pengukuran batas bidang tanah metode RTK-Radio base lokal digeser secara grafis ke satu titik batas bidang tanah hasil pengukuran RTK-NTRIP base CORS. Kemudian dihitung nilai pergeseran jarak dan arah, dan perbedaan luasnya. Kajian dilakukan dengan membandingkan hasil perhitungan nilai pergeseran jarak dan perbedaan luasnya terhadap toleransi yang diizinkan (berdasarkan juknis PTSL 01/Juknis-300/2016).

Nilai pergeseran jarak setelah dilakukan pergeseran secara grafis rata-ratanya sebesar, lokasi 1 = 0.030m, lokasi 2 = 0.025m, lokasi 3 = 0.034m dan lokasi 4 = 0.019m. Besar arah Pergeseran rata-rata sebesar, lokasi 1 = 172.8131398, lokasi 2 = 174.4111732, lokasi 3 = 34.84369979, lokasi 4 = 319.33044482. Besar nilai Perbedaan luasnya rata-ratanya sebesar, lokasi 1 = 0.52m², lokasi 2 = 0.039 m², lokasi 3 = 0.069m² lokasi 4 = 0.113 m². Secara keseluruhan lokasi 1,2,3 dan 4, untuk pergeseran jarak dan perbedaan luasnya masuk batas toleransi yang diizinkan (berdasarkan juknis PTSL 01/Juknis-300/2016).

Kata Kunci : GNSS, RTK-NTRIP, RTK-Radio, RMSE

ABSTRACT

COMPARISON OF MEASUREMENT OF LAND FIELD USING GNSS RTK-NTRIP (BASE CORS ULPC) AND RTK-RADIO (LOCAL BASE)

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The use of GNSS technology is growing very fast. Currently, the Geospatial Information Agency (BIG) and the National Land Agency (BPN) already have a CORS (Continuously Operating Reference Station) GNSS station, which is a set of GNSS equipment that operates on an ongoing basis that can provide information that can be used to be placed in real-time or in real-time. direct. post processing. Land parcel boundary measurements conducted by BPN often use the RTK-Radio method on a local basis. The map of the area measured using the local RTK-Radio base will be shifted graphically. It is necessary to study whether the value of the shift and the difference in area are within the allowed tolerance limits (based on the technical guidelines for PTSL 01/juknis-300/2016). Land parcel boundary measurements were carried out using two measurement methods RTK-NTRIP base CORS and local base RTK_Radio. then the results of the measurement of the soil boundary using the RTK-Radio base local digester method graphically to one point of the soil boundary as the result of the RTK-NTRIP base CORS measurement. Then calculated the shift in the value of distance and direction, and the difference in area. The study was carried out by comparing the results of the calculation of the value of the distance shift and the difference in its area to the allowed tolerance (based on the PTSL technical guidelines 01/Juknis-300/2016). The average shift value after the shift is done graphically is, location 1 = 0.030m, location 2 = 0.025m, location 3 = 0.034m and location 4 = 0.019m. The magnitude of the average shift direction is, location 1 = 172.8131398, location 2 = 174.4111732, location 3 = 34.84369979, location 4 = 319.33044482. The value of the difference in the average area is equal to, location 1 = 0.52m², location 2 = 0.039 m², location 3 = 0.069m², location 4 = 0.113 m². Overall locations 1,2,3 and 4, for shifting distances and differences in area are within the permissible tolerance limits (based on the PTSL technical guidelines 01/Juknis-300/2016).

Keywords: GNSS, RTK-NTRIP, RTK-Radio, RMSE