

Dieter Fritsch's Summary 51. Photogrammetric Week

ifp

Topic 1: Digital Image Data Collection – Strength und Weakness

Keynote:

- CCDs vs. CMOS, CCDs cheap in production (mass ware)
- CMOS has superior capabilities (HDRC, Thin film, CMOS)
- CMOS can overcome the CCD weakness (blooming, over exp.)
- Up to now: CMOS line array of 10000 pixel (12 bit)
- Next 5y: still CCDs, at least for large frame digital camera system

DCS Invited Papers:

- ≥ 200 systems in daily photogrammetric operations (S)
- New storage capabilities (integrated in the body) (S)
- Meet user's accuracy requirements (by add. calibration) (S)
- Trade-off between photogr. & RS application (colored orthos) (S,W)



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Topic 1 (cont.)

- New systems offered (ADS SH51/SH52, UCX/DigiCAM H39, AICx2) (S)
- Independence from GNSS Ref. Station by PPP Services (eg Waypoint)
- Test of DCS under same conditions still missing (W)
- Systems are USGS certified, EuroSDR certification initiative (S)
- Trade-off between bandwidth of MS channels and CCD exposure capability "Less light- less sensitive" (W)
- BRDF processing at the beginning, evtl. help by CG
- Radar: TerraSAR X, SARLupe, RADAR SATII in orbit (S)
- Radar: Potential for urban mapping, adv. knowledge for interpretation / processing necessary (S/W)
- LIDAR: Full waveform laser scanning improve accuracy (S)
(ISPRS LAS 1.1/LAS 2.0 Recs)



Topic 2: Geocoding of Photogrammetric Imagery

Keynote:

- 15y GPS AT + 10y IMU/GPS int: „things have not changed that much“
- Sensor calibration & orientation is a 4D problem
- Paradoxon: industry does IMU R&D, academia the testing
- Ext. Gauss-Helmert model overcomes the time (dynamics) effects

Invited Papers:

- Future of GNSS is great (GPS, Glonass, Galileo, ...)
- 20-45 satellites visible, orbit /clock error will disappear
- IMUs more powerful, Street Mapper Systems
- Direct georeferencing \neq Aerial triangulation (modeling errors)
- Kalman filter through ext. Gauss Helmert models
- Real-time positioning?



Topic 3: Photogrammetry goes public

Keynote:

- Digital Globes gives momentum, public awareness
- User generated content (integration in DGs)
- What about texturing (oblique aerial images terrestrial images)
- Fast streaming in an issue
- 3D Web, 3D framework, 2nd Life applications

Invited Papers:

- Overcome the SILO effect
- Enterprise system workflow and architectures
- Wavelet compression up to 5x improvements (without loss)
- Image data spidering necessary
- Orthophoto production lines demand for High Res.



Topic 3 (cont.)

- Orthophoto production lines need optimization, timely feedbacks, production intelligence
- Spatial Data Infrastructure provide transparency, homogeneity
EOSDIS vs. GAES
- 3D City Models need data reduction generalization and user-dependent visualization (car navigation etc.)
- Rules for 3D generalization still missing, but already powerful approaches available
- 3D Landmarks fused with 2D/2.5D digital maps a compromise
- Next Generation Automatic Terrain Extraction impressive
- Data QA/QC is an issue
- Augmented World Models allow many services
- Podcasting Photogrammetry archives any content