Automatic Data Acquisition Based on Abrupt Motion Feature and Spatial Importance for 3D Volleyball Analysis

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**Research Background**
- Automatic sports analysis
  - TV content
  - Strategy analysis

**Proposal**
- Event data
- Strategy data

**Applications**
- Physical data
- Event data
- Strategy data

**Experimental Results**
- Success rate: 99.4%
- Detection rate: 92.4%

**Conclusion**
- Abrupt Motion Feature
- Spatial Importance
- Various kinds
- High precision (92%–100%)
- Data hard observed by human
- Automatic acquisition

**Efficacy variables**
- SZ: 84.4%
- AN: 91.1%
- AT: 88.6%
- BN: 100%

**Experimental Results**
- Ball hitting position and velocity
- Set position
- Attack position

**Proposal**
- Physical data
  - 3D position
  - Velocity
- Event data
  - receive
  - set
  - serve
  - Ball event
- Strategy data
  - ATTACK:
  - attacker
  - setter
  - blocker

**Next state**
- Estimation:
  - System model
  - P2.2: Spatial event change distribution
- Observation:
  - Multi-view image
  - Past trajectory
  - P2.1: Multiple event change feature based observation

**Proposal**
- Free flying
- Being hit
- Large spatial density
- Ball candidates

**Experimental results**
- Various kinds
- High precision (92%–100%)
- Data hard observed by human
- Automatic acquisition

**Automatic Data Volley System**
- New Data for TV Contents