

Interactive  
Comment

***Interactive comment on “An overview of the lightning and atmospheric electricity observations collected in Southern France during the HYdrological cycle in Mediterranean EXperiment (HyMeX), Special Observation Period 1” by E. Defer et al.***

**Anonymous Referee #2**

Received and published: 4 November 2014

This manuscript describes the suite of instrumentation used and provides examples of some of the lightning and atmospheric electricity measurements and results obtained during the PEACH project of HyMeX SOP1.

The results presented in this manuscript represent an important contribution to improving our understanding of storm and lightning activity in the Northwestern Mediterranean Sea and surrounding coastal regions. The manuscript is within the scope of AMT. I rec-

C3515

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ommend that the paper be accepted with minor revisions.

Specific comments: I note that the specific issues I was going to raise have already been covered and addressed by the authors in their interactive replies.

Technical corrections: Abstract

p8015 L14: are aimed at characterizing

2 The HyMeX program

p8019 L26: 10-year program p8020 L8: These measurement platforms

3 The PEACH experiment

P8020 L26: Based on 3 years of P8021 L1: remove "as deduced from LIS". redundant.

P8021 L14: forecasts P8021 L20: remove "a"

3.1 Scientific objectives and observational/modelling strategy

P8022 L16: aims to document p8022 L23: of deploying relevant instrumentation P8023 L14: has previously experienced heavy precipitation P8024 L8: descriptions of lightning activity P8024 L15: relative to

3.2.1 HyLMA

P8025 L1: data were P8025 L2: for detailed post-processing.

3.2.3 MBA/MPA

p8026 L19: signal from

3.2.4 EFM

p8027 L15: used at three P8027 L22: data from each sensor were

3.2.5 VFRS

p8028 L11: data could record distances up to P8028 L13: A detailed description of the

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VFRS p8028 L19: in continuous

### 3.2.6 Locations and status of the reserach instruments

p8029 L2: consisted of p8029 L6: network, a few tens p8029 L7: hills, a few hundred meters away from the Grande p8029 L15-16: initially operational with ... 2012, and expanded to 11 stations

#### 3.3.1 ATDnet

p8030 L6 : paths of VLF sferics

#### 3.3.2 EUCLID

p8031 L21: has been steadily improving

#### 3.3.3 LINET

p8031 L27: Each sensor includes p8032 L2: by a lightning discharge. P8032 L7: LINET also detects

#### 3.3.4 ZEUS

p8032 L28: capable of detecting

### 3.5.2 The WRF model

P8034 L9: the use of available P8034 L10: to improve the monitoring p8034 L12: the authors applied an assimilation p8034 L14: presence of convection in the MM5 mesoscale model

### Examples of unusual lightning flashes

p8039 L3: splits into two paths p8039 L14: capability of operational systems p8040 L1: Figure 7 presents an example p8040 L15: occurred in p8040 L16: relative to HyLMA p8040 L26: Such discrepancies are

Concurrent VHF and Aacoustics measurements

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p8041 L19: 105s p8041 L24: shows a less

#### 4.2.2

p8042 L5: SOP1 period. Although P8042 L6-7: not discussed here, it is worth mentioning p8042 L19: 2012) associated with scattered p8043 L24: The first p8043 L28: The VFRS operated from P8043 L29: and then moved to Mont Ventoux P8044 L6: shows an extensive area of P8044 L17: Analyses combining P8044 L18: records are p8044 L19: precursors related to this tornado.

#### 5 Prospects

p8045 L26: density to populate the p8046 L12: LMA will be established in may 2014  
p8046 L16: PEACH project have already helped

#### References

p8051 L19: MacGorman et al 1981 - not cited in text p8052 L23: Saunders 2008 - not cited in text

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