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**On the diversity of superluminous supernovae: ejected mass as the dominant factor**

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### Article

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## Erratum: On the diversity of superluminous supernovae: ejected mass as the dominant factor

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**Key words:** errata, addenda – supernovae: general – supernovae: individual: LSQ14bdq – supernovae: individual: LSQ14mo – supernovae: individual: SN 2013hx.

This is an erratum to the paper ‘On the diversity of superluminous supernovae: ejected mass as the dominant factor’, published in MNRAS, 2015, 452.

We have noticed that some of the supernova peak magnitudes in Table 1 are given in the wrong rows. The error affected the rows

‘PS1-11ap’ to ‘PS1-10ky’, with each magnitude displaced downwards by one cell. The nature of this error is purely typographic. Originally, the objects were grouped into high- and low-redshift bins, rather than by wavelength coverage; the error occurred when moving PS1-11ap from the high-*z* group into the ‘Gold’ coverage group. This does not affect any of the other tables, figures, or analysis in the paper.

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**Table 1.** SLSNe in our sample.

Name	Type	$z$	$M_{griz}^*$	Reference
‘Gold’ sample: rest-frame $gri(z)$ coverage				
SN2007bi	Ic <sup>†</sup>	0.127	−20.20	Gal-Yam et al. (2009)
SN2008es	II	0.205	−21.43	Gezari et al. (2009), Miller et al. (2009)
SN2010gx	Ic	0.230	−20.64	Pastorello et al. (2010), Quimby et al. (2011)
SN2011ke	Ic	0.143	−20.69	Inserra et al. (2013)
SN2011kf	Ic	0.245	−20.80	Inserra et al. (2013)
SN2012il	Ic	0.175	−20.73	Inserra et al. (2013)
SN2013dg	Ic	0.265	−20.30	Nicholl et al. (2014)
SN2013hx	II	0.130	−20.84	Inserra et al. (in preparation)
LSQ12dlf	Ic	0.255	−20.68	Nicholl et al. (2014)
LSQ14mo	Ic	0.253	−19.95	Chen et al. (in preparation)
LSQ14bdq	Ic	0.347	−21.68	Nicholl et al. (2015)
PTF10hgi	Ic	0.100	−19.61	Inserra et al. (2013)
PTF11rks	Ic	0.190	−20.01	Inserra et al. (2013)
PTF12dam	Ic <sup>†</sup>	0.107	−20.56	Nicholl et al. (2013)
CSS121015	II	0.287	−22.00	Benetti et al. (2014)
SSS120810	Ic	0.156	−20.45	Nicholl et al. (2014)
PS1-11ap	Ic <sup>†</sup>	0.524	−20.54	McCrum et al. (2014)
‘Silver’ sample: rest-frame $g$ band with bolometric correction				
SN2005ap	Ic	0.283	−21.22	Quimby et al. (2007)
SCP06F6	Ic	1.189	−21.56	Barbary et al. (2009)
PTF09cnd	Ic	0.258	−21.34	Quimby et al. (2011)
PTF09cwl	Ic	0.349	−21.15	Quimby et al. (2011)
PS1-10ky	Ic	0.956	−21.24	Chomiuk et al. (2011)
PS1-10bjz	Ic	0.650	−20.32	Lunnan et al. (2013)
iPTF13ajg	Ic	0.740	−21.50	Vreeswijk et al. (2014)

\*Pseudo-bolometric magnitude at maximum light; <sup>†</sup>Described in the literature as a slowly declining event.

## REFERENCES

Barbary K. et al., 2009, *ApJ*, 690, 1358  
 Benetti S. et al., 2014, *MNRAS*, 441, 289  
 Chomiuk L. et al., 2011, *ApJ*, 743, 114  
 Gal-Yam A. et al., 2009, *Nature*, 462, 624  
 Gezari S. et al., 2009, *ApJ*, 690, 1313  
 Inserra C. et al., 2013, *ApJ*, 770, 128  
 Lunnan R. et al., 2013, *ApJ*, 771, 97  
 McCrum M. et al., 2014, *MNRAS*, 437, 656  
 Miller A. et al., 2009, *ApJ*, 690, 1303

Nicholl M. et al., 2013, *Nature*, 502, 346  
 Nicholl M. et al., 2014, *MNRAS*, 444, 2096  
 Nicholl M. et al., 2015, *ApJ*, 807, L18  
 Pastorello A. et al., 2010, *ApJ*, 724, L16  
 Quimby R. M., Aldering G., Wheeler J. C., Höflich P., Akerlof C. W., Rykoff E. S., 2007, *ApJ*, 668, L99  
 Quimby R. M. et al., 2011, *Nature*, 474, 487  
 Vreeswijk P. M. et al., 2014, *ApJ*, 797, 24

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