The writers would like to thank the discusser for pointing out the sign error in Eq. (16). This was a typographical error in the paper; all calculations were done using the correct sign (+). The writers also thank the discusser for providing a historical account of the derivation of Barbero's equation, although it should be noted that in his original paper Barbero cited both the Zhan and Ylinen work. In the literature on pultruded profiles, the Barbero and Tomblin (1994) equation is most often cited. It has been shown to represent experimental data. It is used in design codes (CNR 2008) and in textbooks (Bank 2006). The focus of the paper was to investigate appropriate resistance factors and the related reliability that could be used for pultruded columns with a variety of different material properties. The writers also thank the discusser for providing a curve-fitting equation for the experimental data but wish to point out that the approach presented is not curve fitting. It is based on two well-accepted analytical equations for global (Gere and Timoshenko 1997) and local (Kollár 2003) buckling in pultruded profiles and has a single fitting parameter that is calibrated from experimental data for design equations to account for the interaction between local and global buckling. The methodology used is not particularly different from that used in other design codes.

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Discussion of "Ultimate Wind Load Design Gust Wind Speeds in the United States for Use in ASCE-7" by Peter J. Vickery, Dhiraj Wadhera, Jon Galsworthy, Jon A. Peterka, Peter A. Irwin, and Lawrence A. Griffis

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1. Given that large synthetic hurricane wind speed data sets were produced for the development of the ASCE 7–10 Standard maps, the authors could help elucidate the question of whether hurricane winds in the United States are best fitted by the Gumbel or the reverse Weibull distribution (see, e.g., Heckert et al. 1998; Simiu and Miyata 2006, p. 34), at least for a few mileposts. This contribution would be particularly valuable in that it would enable improved structural reliability assessments. The credibility of the results would be enhanced if a long hurricane data set for at least one hurricane milepost were posted by the authors on the internet.

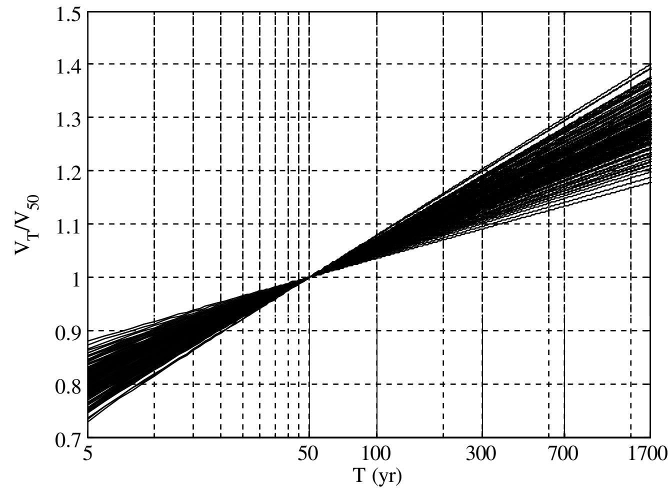

Fig. 1. Ratios of V_T/V_{50} for 118 stations in nonhurricane regions

2. Probability distributions of extreme nonhurricane wind speeds are commonly assumed to have a Type I Extreme Value (Gumbel) distribution tail. However, even if this assumption were accepted, the parameters of the distribution can vary as a function of location. This observation is illustrated in Fig. 1, which shows the variability of the ratios V_T/V_{50} among 118 stations. For example, the ratio V_{1700}/V_{50} is 1.4 at Greenville, SC, and 1.2 at El Paso, TX; and ASCE uses a value of 1.35. If, in addition, reverse Weibull distributions are used, as is the case in "Wind Actions" (AS/NZ 2002) (see also Holmes and Moriarty 1999), and consideration is given to the mixed character of the extreme value distributions in zones with both thunderstorms and synoptic storms (Lombardo et al. 2009), the differences can become even larger (Lombardo 2012).
3. The authors present the wind maps for nonhurricane regions without comment or qualifications. As was pointed out in Simiu et al. (2003) (see also Peterka and Esterday 2005 and Simiu et al. 2005), the ASCE 7 Standard 50-year wind maps were developed by assuming that it is legitimate to employ the data for any one station in two, three, or even four superstations. The use of this assumption for the development of the ASCE 7 Standard map is clearly documented in Peterka (2001) and renders the wind map artificially uniform by suppressing actual differences such as those illustrated in Fig. 1. The geographical nonuniformity of the extreme wind speeds can be considerably stronger for speeds with 700- and 1,700-year mean recurrence intervals than for the 50-year speeds. The authors' opinions on this issue would be helpful, since efforts being undertaken at NIST and elsewhere to update the U.S. wind map would benefit from their views.

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