Partition of \( \pi \)-electrons among the faces of polyhedral carbon clusters

Abstract
We apply the concepts of importance and redundancy to compute and analyze the partition of \( \pi \)-electrons among faces of actual and potential polyhedral carbon clusters. In particular, we present explicit formulas and investigate asymptotic behavior of total and average \( \pi \)-electron content of all faces of prisms and \( n \)-barrels. We also discuss the observed deviations from the uniform distribution and show that the patterns of net migration of \( \pi \)-electrons differ from those computed for narrow nanotubical fullerenes. Some possible directions of future work are also indicated.