

Geophysical Research Abstracts,  
Vol. 10, EGU2008-A-08447, 2008  
SRef-ID: 1607-7962/gra/EGU2008-A-08447  
EGU General Assembly 2008  
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## **Search for the missing CN parent in cometary comae**

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Different arguments show that HCN cannot be the only parent of CN in cometary comae. Several other sources have been suggested: other parent molecules, chemical synthesis in the coma, CHON grains. In this study, we use Giotto data to check C<sub>2</sub>N<sub>2</sub> and HC<sub>3</sub>N as possible CN parents in the coma of comet Halley. We investigated the contribution of these possible parent molecules to CN in the cometary coma using a database of cometary species and reactions together with model software we have developed. The model results are compared to the experimental data. The influence of uncertainties on the reaction rates, electron temperature profiles, and different nucleus compositions is also studied. This has shed new light on the origin of CN in the cometary coma.