

January 5, 2008

Prof. David A. Buote  
University of California, Irvine  
Department of Physics and Astronomy  
4129 Frederick Reines Hall  
Irvine, CA 92697-4575

Dear Professor Buote:

Please accept the attached application for your postdoctoral position advertised in the December 2007 issue of the AAS Job Register. For my thesis (advised by Megan Donahue and Mark Voit), entitled '*Virialization, Entropy, and Feedback in Clusters of Galaxies*', I am studying the coupling of feedback mechanisms – such as AGN, star formation, and conduction in cluster cores – to gas entropy, and the role of this feedback in altering global ICM properties and growth of massive galaxies. I have also studied a method for quantifying the virialization state of clusters. For my thesis, I assembled a sample of 350 archival *Chandra* observations for 276 clusters totaling 11.6 Msec of data. The results of this laborious effort have been many and are detailed in my research summary.

I am a valuable research asset for any X-ray astronomer because of my extensive experience with X-ray data, innovative technical skills, and ability to independently advance the group's and my own research objectives. I feel the post-doctoral position under your advisory at U.C. Irvine is an ideal fit for me, and your research goals will benefit from my addition. I have acquired considerable expertise with galaxy clusters and groups, and along with my own research interests, I am eager to pursue new projects in this field.

Along with this letter are my curriculum vitae, a list of publications, a summary of my research experience, and a description of research interests. Letters of recommendation from Megan Donahue, Mark Voit, and Jack Baldwin should already have arrived under separate cover. Please contact me if there is any further information I can provide as you review my application.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ken Cavagnolo', written over a light gray rectangular background.

Kenneth W. Cavagnolo  
Michigan State University