

October 1, 2007

Dr. Adam Stanford
University of California, Davis
Physics Department
One Shields Avenue
San Ramon, CA 94583

Dear Dr. Stanford:

Please accept the attached application for your postdoctoral position in galaxy cluster studies advertised in the September 2007 edition of the AAS Job Register. For my thesis, entitled '*Feedback, Evolution, and Dynamics in Galaxy Clusters*', I am studying the connection of feedback mechanisms – such as AGN, star formation, and radiative cooling in cluster cores – to gas entropy, and the role of this feedback in altering global properties of the ICM and impacting galaxy formation. I have also been studying a method for quantifying the virialization state of clusters through the band dependence of X-ray temperatures. For my thesis I assembled a sample of 350 archival *Chandra* observations for 276 clusters. The results of this laborious task have been many and are detailed in the research summary.

My expertise in X-ray astronomy, with *Chandra* specifically, ideally suits me to further study the evolution of galaxy clusters and mass-observable relations as tools for conducting tests of cosmological models and better understanding galaxy formation/evolution. Adaptation of my skill sets to study clusters in the radio, optical, and infrared is the next step in my career and should come with a short learning curve thanks to my existing, mature programming ability. I am a great asset for anyone studying clusters both for my technical skills and to furthering their research objectives. I feel the post-doctoral position under your advisory at UC-Davis is an excellent fit for me, and your research goals will benefit from my addition.

Along with this letter are my curriculum vitae, a list of publications, a summary of past and current research, and a brief description of possible research directions. Letters of recommendation from Megan Donahue, Mark Voit, and Jack Baldwin are available via their contact information provided at the end of my CV. Please do not hesitate to 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