FREE103POINT9 NEWSROOM

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Bonding Energy

"Bonding Energy" is part of Cross Current Resonance Transducer, a collaboration between Douglas Repetto and free103point9 transmission artist LoVid (Tali Hinkis and Kyle Lapidus). The project is based on the discovery of pulsars. In 1967, while working on a radio telescope in Cambridge, Jocelyn Bell Burnell detected unusual pulses through the telescope. Burnell and her colleagues did not believe that these strange pulses were naturally occurring signals, and began referring to them as LGMs (Little Green Men), suggesting that the signals were indicative of extraterrestrial intelligence. Eventually, the source of the pulses was determined to be a rapidly spinning neutron star that sends out regular bursts of radio waves and other electromagnetic radiation. Such stars are now called pulsars.

From CCRT, about "Bonding Energy":

> *Cross Current Resonance Transducer is an open-ended collaboration and research project. We are interested in the processes of interpretation and evaluation that are inherent in human attempts to understand natural phenomena. Inspired by the story of the pulsar's discovery, we develop systems for monitoring, manipulating, and interpreting natural signals such as electromagnetic radiation, tidal patterns, ambient temperature gradients, wind, and barometric pressure modulations. Our interest is not so much in presenting the phenomena themselves, but rather in exploring the often flawed but revealing interpretations of those phenomena that ultimately lead to greater human understanding and scientific progress. Our investigation has expanded from an initial focus, which emphasized using standard environmental sensors, to an interest in building our own environmental monitoring devices.*
>
> *Our current CCRT project, "Bonding Energy," is focused on electromagnetic radiation (solar energy). It reflects our growing interest in not only collecting and analysing environmental data, but also in using the signals we investigate as potential renewable energy sources. As a model of a system for distributed microenergy generation, it is inspired by distributed computing applications such as SETI@home and by ideas associated with microcredit loans.*
>
> *"Bonding Energy" consists of a set of "Sunsmile" devices that*

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> *measure solar energy from seven sites around New York State. In keeping with our general CCRT working method, the physical form of the devices was determined by our interpretion of a previous generation of solar data manually collected in our studios each day during January 2007. The 31 data points were used to cut acrylic rings for the bodies and to create molds for the cast plastic bases. Each Sunsmile also has a printed circuit board inside and a small solar panel sitting on top.*
>
> *Every ten minutes each Sunsmile device takes a reading from its solar panel and sends the data to a database on the turbulence.org server. When a viewer loads the Bonding Energy application they are presented with a live visualization of the data collected from the seven devices. Each device is represented by a wedge in an animated circle. The colors in the wedges change as the data from the previous three days is played back. Highlighted bands call out high and low data values, and a rotating line of text displays the data and time of the data being displayed in the center of the circle at each moment. Shapes overlaid on the animation represent changing data relationships between and withing the Sunsmile devices.*

"Bonding Energy" was developed at in an AIRtime residency at free103point9 Wave Farm along with studios at the Columbia University Computer Music Center and the Eyebeam R & D Open Lab. It is a 2007 commission of New Radio and Performing Arts, Inc., (aka Ether-Ore) for its Turbulence web site. A Sunsmile is currently in operation at free103point9's Wave Farm (pictured above), as well as at other New York locations including Columbia University, Redhouse Art Center, Colgate University, SUNY Buffalo, RPI's iEar studio, and Experimental Television Center. Repetto and LoVid will have a transcontinental web streaming performance from free103point9's Brooklyn location Oct. 19, with audio and video on free103point9 Online Radio.

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