Operations with the Digital Orbit Feedback System in the NSLS X-ray Ring[*], E. BOZOKI, A. FRIEDMAN[**], S. RAMMAMORTHY, O. SINGH, Y. TANG, Brookhaven National Laboratory - The digital orbit feedback system (DFbk) is standardly used for stabilizing the transverse orbit in the NSLS X-ray ring. The digital filtering and the eigenvector decomposition-based orbit correction is performed by two dedicated HP 742/743 rt micros which communicate with Motorola CPU based orbit-measuring and orbit-correction systems. The correction algorithm in the DFbk was orthogonalized with respect of the analog global harmonic feedback. Operational results concerning improvements in the noise suppression at low frequencies and especially in the dc drift as well as in the orbit stability are shown. Efforts are underway to improve the resolution of the orbit measuring system and the sampling rate using 16 bit 400 kHz ADC's which will allow orbit sampling with high resolution at 4 kHz frequency. This system will have a bandwidth of over 100 Hz and will make the use of additional analog global and local feedback unnecessary.

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