ABSTRACT OF THE DISCLOSURE

FOCUS PLANT IDENTIFICATON OR CHARACTARIZATION METHOD FOR OPTICAL DISK SYSTEM

A focus plant identification method for optical disk system (5) uses large sine wave drive signals (70) to drive the focus lens (36). Focus S-curve timings (FE) are measured and used to obtain phase delay (ϕ) through the focus plant. The natural resonance frequency (ω_n) and quality factor (Q) are derived from this information. The gain factor (K_f) is then obtained using sine wave drive signal (70') biased appropriately such that focus S-curves occur at equal time intervals apart. AC-gain (r(f)) at the sine wave frequency is obtained from the ratio between the linear region gradient of the focus error S-curves and the steepest gradient of the drive signal. DC gain is finally obtained from this AC-gain at the measured natural resonance frequency (ω_n) divided by the measured quality factor (Q).

Figure 3