



Fig. 2. Influence of MCS geometrical errors on errors of the face surface processing: a) the form-building system of the machine and the nominal processed surface (end face); b) formation of the real surface size error at $dz_{pu} \neq 0$; c) formation of the real surface form error at $\beta_3 \neq 0$; d) formation of the real surface form error at $\delta z_{pu} \neq 0$.

6 Conclusions

The bases of variation method for metal-cutting systems accuracy calculation systemically are stated in the presented work for the first time. The new general mathematical model of turning metal-cutting system with use of the cutting tools which can't be considered dot tools is presented. The accuracy modeling at processing cylindrical and face surfaces is performed. The results received in general are coordinated with the previous researches

however allow considering influence of the cutting tool accuracy on processing accuracy. The further researches directions in the field of metal-cutting systems accuracy calculations when processing difficult surfaces by the shaped cutting tool and also when accounting rigidity of these systems elements and the proceeding processes are revealed.

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