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| **Algorithm 1** Calculation of the force *F* and the corresponding displacement *x*(*L*) in Satge 1 |
| **Input:** *d*, *L*, *μ*, *EI*, *f*1, *x*(*s*), *y*(*s*), *θ*1(*s*), *θ*2(*s*), *F*c, *l*, *l*a*, l*b and *F*;  **Output:** *F* and *x*(*L*);  **for** (*l*=*l*ato *l*b) **do**  Calculate *F*c through (S12);  Calculate *θ*1(*l*) through (S16);  Calculate *θ*1(*s*) and *F* through (S7)1 together with (S8), (S13) and (S17);  Calculate *θ*2(*s*) through (S7)2 together with (S10) and (S15);  Calculate *x*(*L*) through (S1)1;  Print *F* and *x*(*L*);  **end for** |

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| **Algorithm 2** Calculation of the force *F* and the corresponding displacement *x*(*L*) in Satge 2 |
| **Input:** *d*, *L*, *μ*, *EI*, *f*2, *x*(*s*), *y*(*s*), *θ*1(*s*), *θ*2(*s*), *F*c, *l*, *l*a*, l*b, *θ*0 and *F*;  **Output:** *F* and *x*(*L*);  **for** (*l*=*l*ato *l*b) **do**  Define *θ*1(*l*)= *θ*0;  Calculate *θ*1(*s*) and *F*c(*θ*0) through (S7)1 together with (S9), (S10) and (S18);  Calculate *θ*2(*s*) and *F*(*θ*0) through (S7)2 together with (S10), (S14) and (S15);  Calculate *θ*0 and *F*(*θ*0) through (S12);  Calculate *x*(*L*) through (S1)1;  Print *F* and *x*(*L*);  **end for** |