

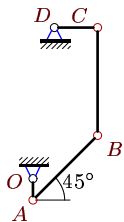
Уравнение трех угловых ускорений. Две степени свободы

В указанном положении механизма заданы угловые скорости (с^{-1}) и ускорения (с^{-2}) двух звеньев. Длины звеньев даны в сантиметрах. Звенья, направление которых не указано, принимать вертикальными или горизонтальными. Найти угловые ускорения звеньев механизма.

Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.: ФИЗМАТЛИТ, 2008. — 384 с. (с.183.)

Задача К-20.1.

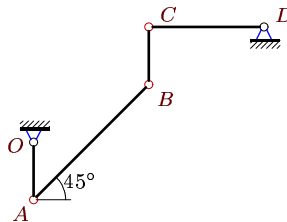
Баранов Никита



$$\begin{aligned}\omega_{OA_z} &= -15, \quad \omega_{BC_z} = -3, \\ \varepsilon_{BC_z} &= 30, \quad \varepsilon_{CD_z} = 15, \\ OA &= 1, \quad AB = 3\sqrt{2}, \quad BC = 5, \quad CD = 2.\end{aligned}$$

Задача К-20.2.

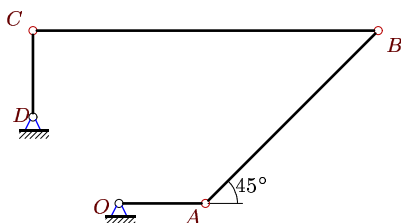
Белинский Матвей



$$\begin{aligned}\omega_{OA_z} &= -2, \quad \omega_{CD_z} = 0, \\ \varepsilon_{OA_z} &= 0, \quad \varepsilon_{BC_z} = 4, \\ OA &= BC = 1, \quad AB = 2\sqrt{2}, \quad CD = 2.\end{aligned}$$

Задача К-20.3.

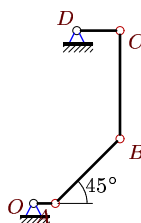
Брагина Надежда



$$\begin{aligned}\omega_{OA_z} &= -8, \quad \omega_{BC_z} = -2, \\ \varepsilon_{OA_z} &= 8, \quad \varepsilon_{CD_z} = -16, \\ OA &= CD = 1, \quad AB = 2\sqrt{2}, \quad BC = 4.\end{aligned}$$

Задача К-20.4.

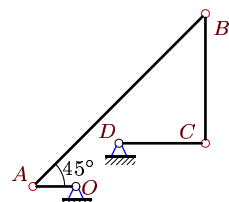
Головин Александр



$$\begin{aligned}\omega_{OA_z} &= -15, \quad \omega_{CD_z} = 0, \\ \varepsilon_{OA_z} &= \varepsilon_{CD_z} = -15, \\ OA &= 1, \quad AB = 3\sqrt{2}, \quad BC = 5, \quad CD = 2.\end{aligned}$$

Задача К-20.5.

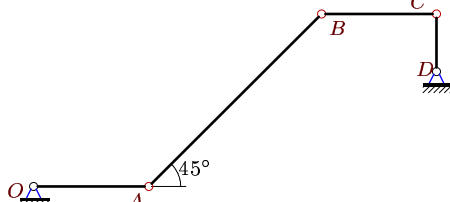
Доманов Евгений



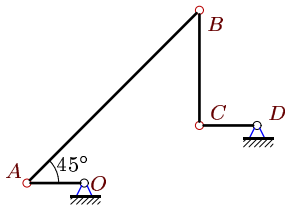
$$\begin{aligned}\omega_{OA_z} &= 12, \quad \omega_{BC_z} = 4, \\ \varepsilon_{BC_z} &= -28, \quad \varepsilon_{CD_z} = 24, \\ OA &= 1, \quad AB = 4\sqrt{2}, \quad BC = 3, \quad CD = 2.\end{aligned}$$

Задача К-20.6.

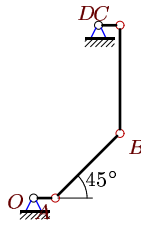
Желагин Андрей



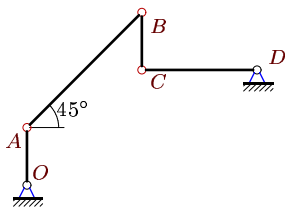
$$\begin{aligned}\omega_{OA_z} &= 6, \quad \omega_{BC_z} = -9, \\ \varepsilon_{BC_z} &= 105, \quad \varepsilon_{CD_z} = 0, \\ OA &= BC = 2, \quad AB = 3\sqrt{2}, \quad CD = 1.\end{aligned}$$

Задача К-20.7.*Идрисов Расим*

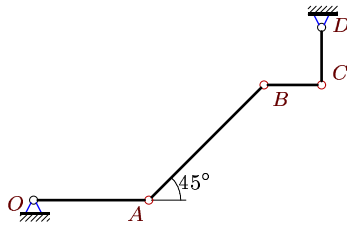
$$\begin{aligned}\omega_{OAz} &= \omega_{BCz} = 6, \\ \varepsilon_{OAz} &= -6, \varepsilon_{CDz} = 12, \\ OA &= CD = 1, AB = 3\sqrt{2}, BC = 2.\end{aligned}$$

Задача К-20.8.*Илюшин Александр*

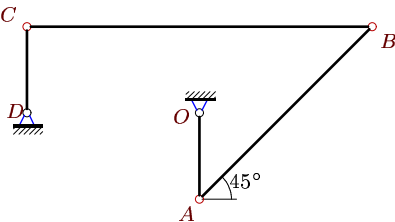
$$\begin{aligned}\omega_{OAz} &= -15, \omega_{CDz} = 0, \\ \varepsilon_{BCz} &= -84, \varepsilon_{CDz} = -15, \\ OA &= CD = 1, AB = 3\sqrt{2}, BC = 5.\end{aligned}$$

Задача К-20.9.*Коваленко Василий*

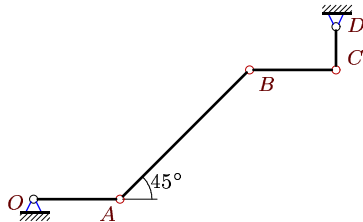
$$\begin{aligned}\omega_{OAz} &= \omega_{BCz} = 2, \\ \varepsilon_{OAz} &= -2, \varepsilon_{BCz} = -6, \\ OA &= BC = 1, AB = 2\sqrt{2}, CD = 2.\end{aligned}$$

Задача К-20.10.*Ковзан Иван*

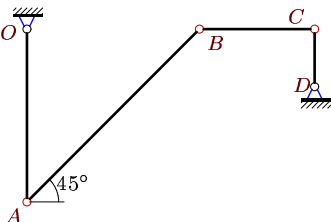
$$\begin{aligned}\omega_{OAz} &= 2, \omega_{CDz} = -2, \\ \varepsilon_{BCz} &= 48, \varepsilon_{CDz} = 0, \\ OA &= 2, AB = 2\sqrt{2}, BC = CD = 1.\end{aligned}$$

Задача К-20.11.*Коклин Александр*

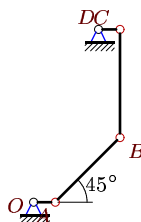
$$\begin{aligned}\omega_{OAz} &= \omega_{CDz} = -8, \\ \varepsilon_{BCz} &= -18, \varepsilon_{CDz} = -16, \\ OA &= CD = 1, AB = 2\sqrt{2}, BC = 4.\end{aligned}$$

Задача К-20.12.*Кудинова Юлия*

$$\begin{aligned}\omega_{OAz} &= 6, \omega_{CDz} = -6, \\ \varepsilon_{BCz} &= 147, \varepsilon_{CDz} = 12, \\ OA &= BC = 2, AB = 3\sqrt{2}, CD = 1.\end{aligned}$$

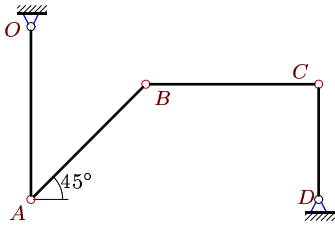
Задача К-20.13.*Латышев Владислав*

$$\begin{aligned}\omega_{OAz} &= 6, \omega_{BCz} = -6, \\ \varepsilon_{OAz} &= 12, \varepsilon_{BCz} = -6, \\ OA &= 3, AB = 3\sqrt{2}, BC = 2, CD = 1.\end{aligned}$$

Задача К-20.14.*Мацаренко Марк*

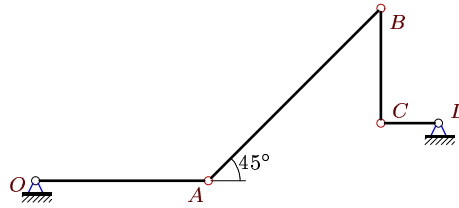
$$\begin{aligned}\omega_{OAz} &= -15, \omega_{BCz} = -3, \\ \varepsilon_{OAz} &= 15, \varepsilon_{CDz} = -15, \\ OA &= CD = 1, AB = 3\sqrt{2}, BC = 5.\end{aligned}$$

Задача К-20.15. Никишина Анастасия



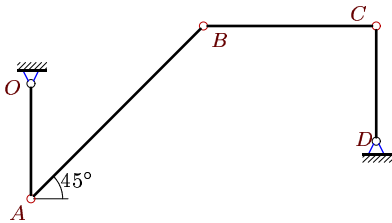
$$\omega_{OAz} = 6, \omega_{BCz} = -6, \\ \varepsilon_{BCz} = 100, \varepsilon_{CDz} = -6, \\ OA = BC = 3, AB = 2\sqrt{2}, CD = 2.$$

Задача К-20.16. Платова Варвара



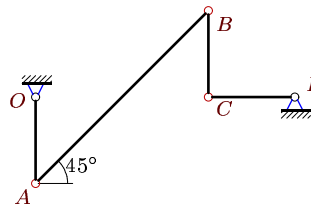
$$\omega_{OAz} = 6, \omega_{CDz} = -6, \\ \varepsilon_{BCz} = 69, \varepsilon_{CDz} = -6, \\ OA = 3, AB = 3\sqrt{2}, BC = 2, CD = 1.$$

Задача К-20.17. Разгуляев Никита



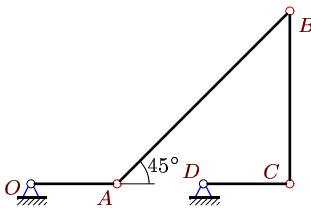
$$\omega_{BCz} = -18, \omega_{CDz} = 18, \\ \varepsilon_{OAz} = 9, \varepsilon_{BCz} = 702, \\ OA = CD = 2, AB = 3\sqrt{2}, BC = 3.$$

Задача К-20.18. Романов Алексей



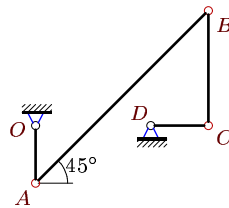
$$\omega_{OAz} = 2, \omega_{CDz} = 0, \\ \varepsilon_{OAz} = 0, \varepsilon_{CDz} = 4, \\ OA = 1, AB = 2\sqrt{2}, BC = CD = 1.$$

Задача К-20.19. Саргин Артем



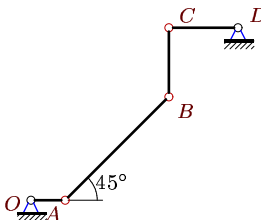
$$\omega_{OAz} = 4, \omega_{CDz} = 0, \\ \varepsilon_{OAz} = 0, \varepsilon_{BCz} = 16, \\ OA = CD = 1, AB = 2\sqrt{2}, BC = 2.$$

Задача К-20.20. Соколов Никита



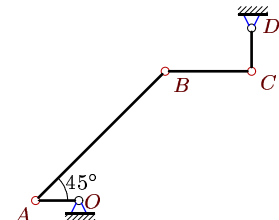
$$\omega_{BCz} = -3, \omega_{CDz} = 0, \\ \varepsilon_{BCz} = -21, \varepsilon_{CDz} = 12, \\ OA = CD = 1, AB = 3\sqrt{2}, BC = 2.$$

Задача К-20.21. Солодовников Вячеслав

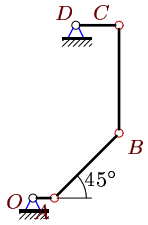


$$\omega_{BCz} = -3, \omega_{CDz} = 0, \\ \varepsilon_{OAz} = 0, \varepsilon_{CDz} = -6, \\ OA = 1, AB = 3\sqrt{2}, BC = CD = 2.$$

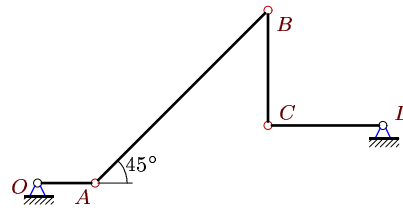
Задача К-20.22. Степанова Дарья



$$\omega_{OAz} = 6, \omega_{CDz} = -6, \\ \varepsilon_{OAz} = -6, \varepsilon_{CDz} = 6, \\ OA = CD = 1, AB = 3\sqrt{2}, BC = 2.$$

Задача К-20.23.*Тулупова Наталъя*

$$\begin{aligned}\omega_{BCz} &= -15, \omega_{CDz} = 30, \\ \varepsilon_{OAz} &= 0, \varepsilon_{BCz} = -648, \\ OA &= 1, AB = 3\sqrt{2}, BC = 5, CD = 2.\end{aligned}$$

Задача К-20.24.*Федоров Владислав*

$$\begin{aligned}\omega_{OAz} &= 6, \omega_{BCz} = 9, \\ \varepsilon_{BCz} &= 183, \varepsilon_{CDz} = 6, \\ OA &= 1, AB = 3\sqrt{2}, BC = CD = 2.\end{aligned}$$