

$$\frac{\partial}{\partial t} e + \frac{\partial}{\partial r} q = L_e(e, q, p, T)$$



$$\frac{\partial}{\partial t} p + \frac{\partial}{\partial r} T = L_p(e, q, p, T)$$



$$T^T = T$$



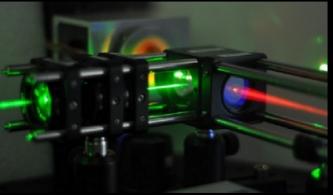
$$\frac{\partial}{\partial t} s + \frac{\partial}{\partial r} h \geq 0$$



$$\frac{\partial}{\partial t} n + \frac{\partial}{\partial r} j = 0$$



$$\frac{\partial}{\partial t} Q + \frac{\partial}{\partial r} I = 0$$



$$\frac{\partial}{\partial t} B + \frac{\partial}{\partial r} F = 0 \quad \frac{\partial}{\partial r} B = 0$$

The Seven Wonders of the World

```
while True:
    msg = ubl.receive_message()
    if msg is None:
        if opts.reopen:
            ubl.close()
            ubl = navio.ublox.UBlox("spi:0.0", baudrate=200000, timeout=2)
            continue
        print(empty)
        break
#print(msg.name())
if msg.name() == "NAV-VELNED":
    print (outstr)

#print(str(msg))
```



```
while True:
    msg = ubl.receive_message()
    if msg is None:
        if opts.reopen:
            ubl.close()
            ubl = navio.ublox.UBlox("spi:0.0", baudrate=200000, timeout=2)
            continue
        print(empty)
        break
    #print(msg.name())
    if msg.name() == "NAV-VELNED":
        print (outstr)

#print(str(msg))
```



```
while True:
    msg = ubl.receive_message()
    if msg is None:
        if opts.reopen:
            ubl.close()
            ubl = navio.ublox.UBlox("spi:0.0", baudrate=200000, timeout=2)
        continue
    print(empty)
    break
#print(msg.name())
if msg.name() == "NAV-VELNED":
    print (outstr)

#print(str(msg))
```



whi

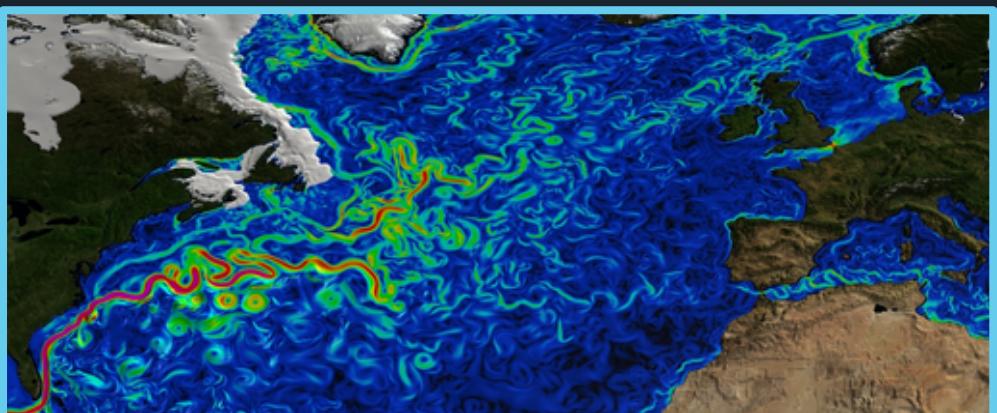
```
msg = ubx.receive_message()
if msg is None:
    if opts.reopen:
        ubl.close()
        ubl = navio.ublox.UBlox("spi:0.0", baudrate=200000, timeout=2)
    continue
print(empty)
break
#print(msg.name())
if msg.name() == "NAV-VELNED":
    print (outstr)

#print(str(msg))
```



whi

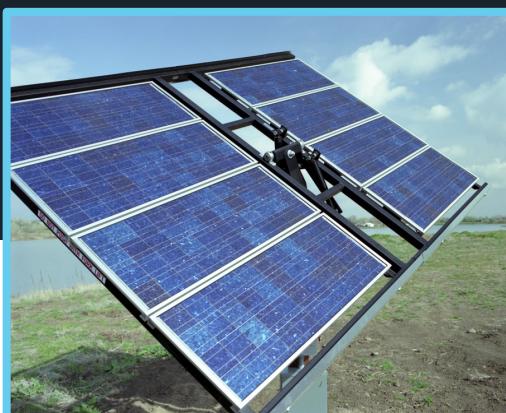
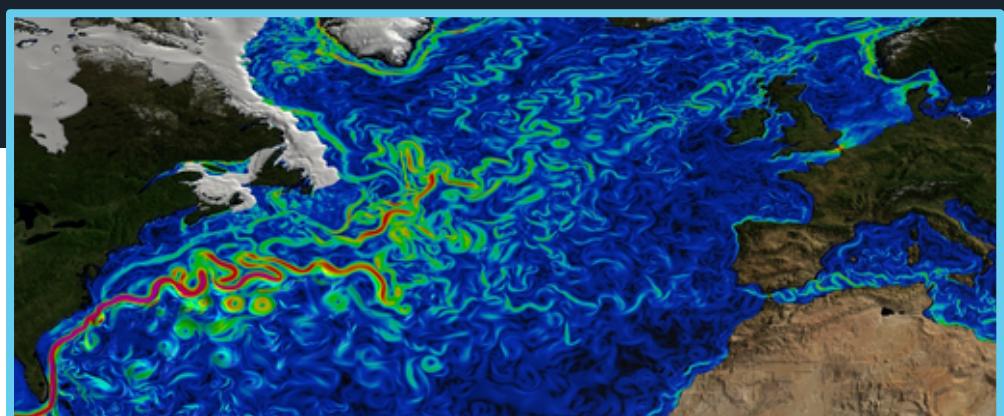
```
msg = ubx.receive_message()
if msg is None:
    if opts.reopen:
        ubl.close()
        ubl = navio.ublox.UBlox("spi:0.0", baudrate=200000, timeout=2)
    continue
print(empty)
break
#print(msg.name())
if msg.name() == "NAV-VELNED":
    print (outstr)
```





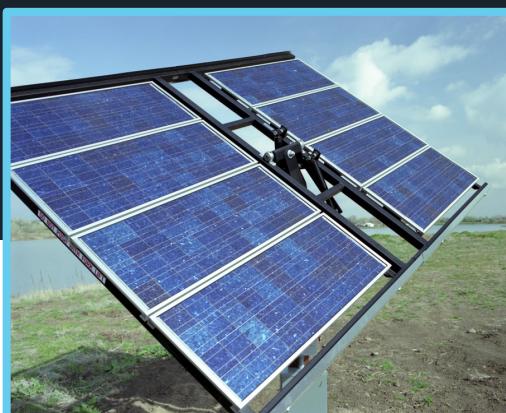
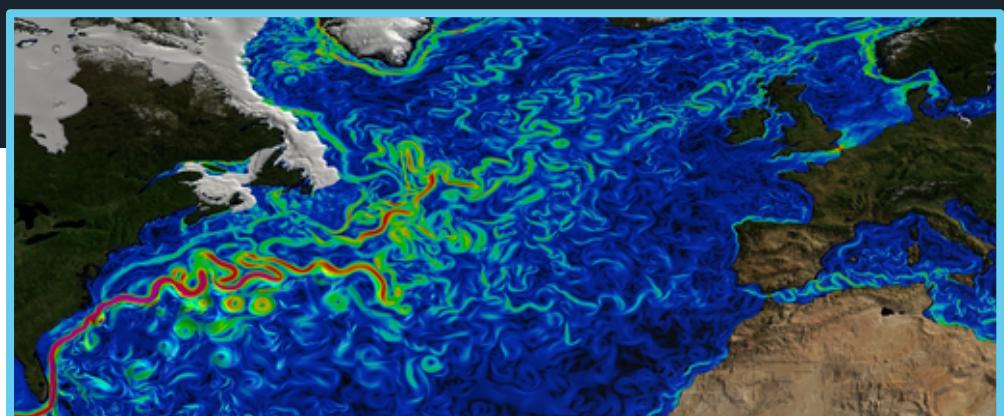
whi

```
msg = ubl.receive_message()
if msg is None:
    if opts.reopen:
        ubl.close()
        ubl = navio.ublox.UBlox("spi:0.0", baudrate=200000, timeout=2)
    continue
print(empty)
break
#print(msg.name())
if msg.name() == "NAV-VELNED":
    print (outstr)
```





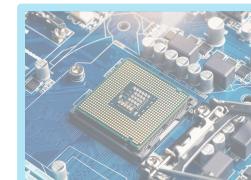
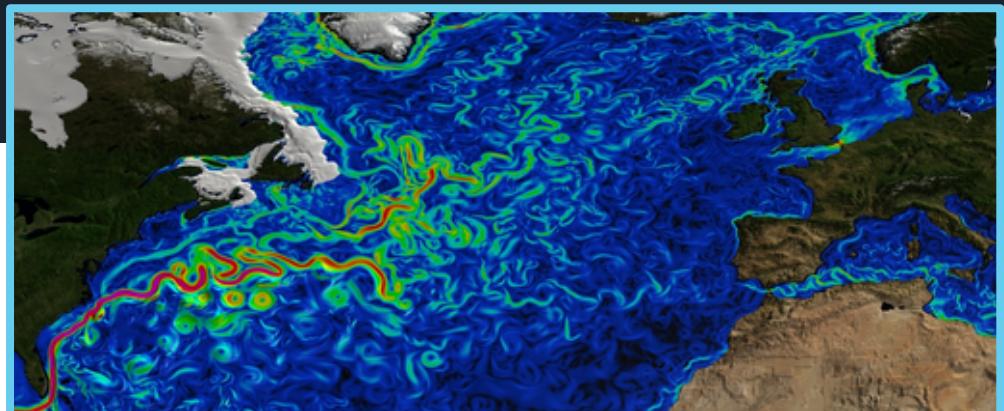
```
while True:
    msg = ubl.receive_message()
    if msg is None:
        if opts.reopen:
            ubl.close()
            ubl = navio.ublox.UBlox("spi:0.0", baudrate=200000, timeout=2)
        continue
    print(empty)
    break
#print(msg.name())
if msg.name() == "NAV-VELNED":
    print (outstr)
```

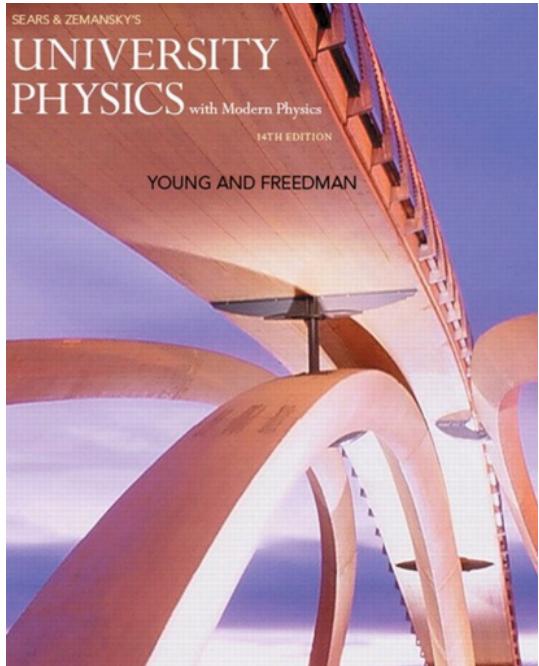




whi

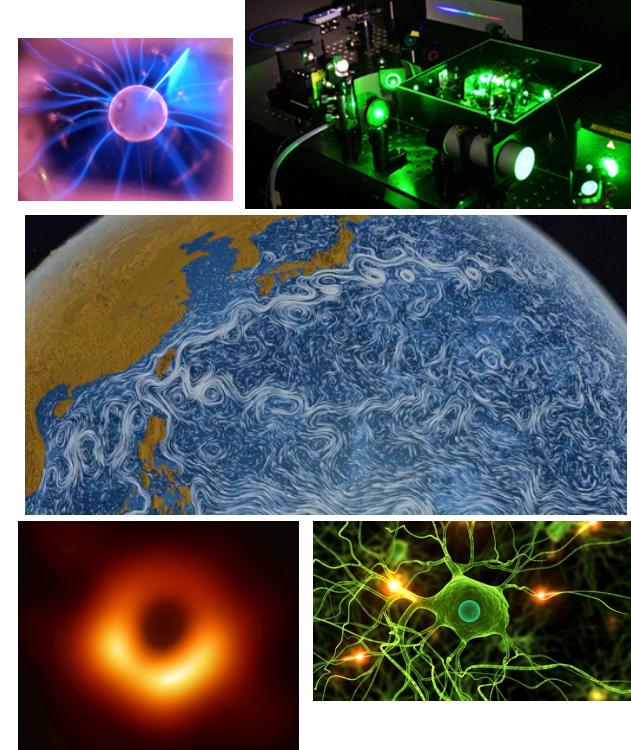
```
msg = ubl.receive_message()
if msg is None:
    if opts.reopen:
        ubl.close()
        ubl = navio.ublox.UBlox("spi:0.0", baudrate=200000, timeout=2)
    continue
print(empty)
break
#print(msg.name())
if msg.name() == "NAV-VELNED":
    print (outstr)
```

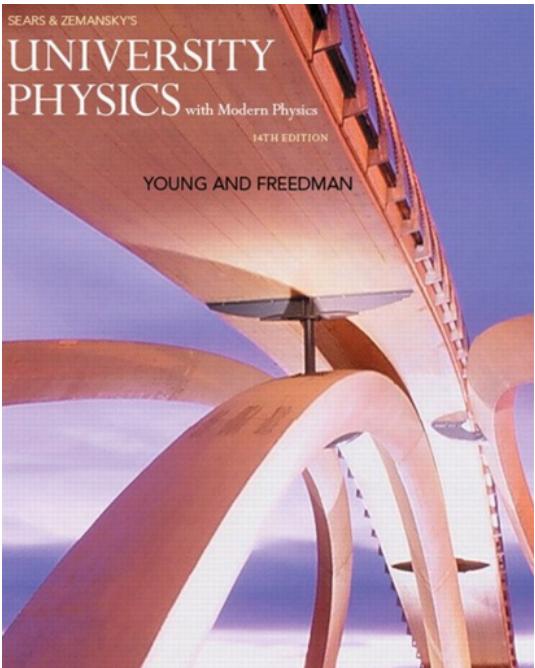




force,,
Newton's laws,,
ideal-gas law,,

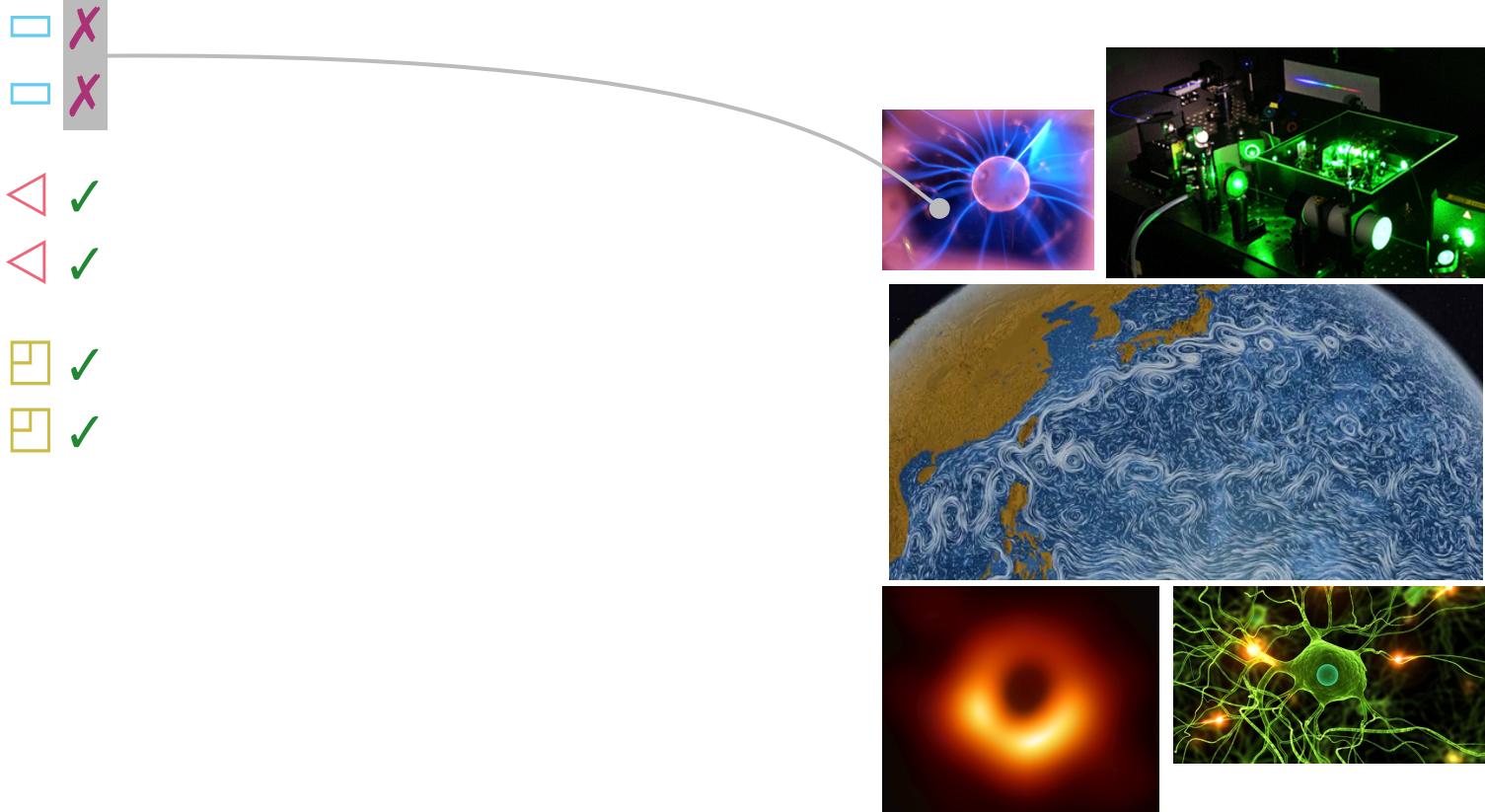
- ✓
- ✓
- ✓
- ✓
- ✓
- ✓

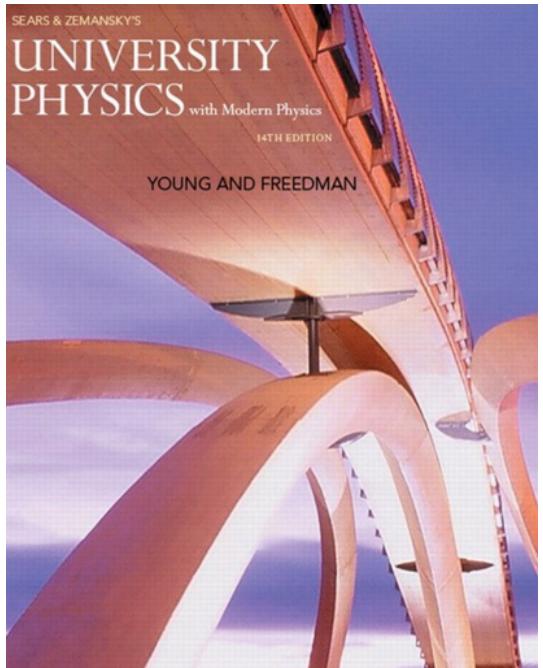




force,,
Newton's laws,,
ideal-gas law,,

- X
- X
- ✓
- ✓
- ✓
- ✓

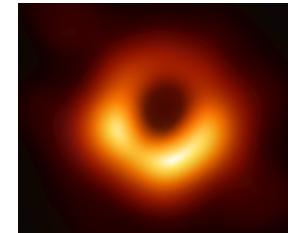
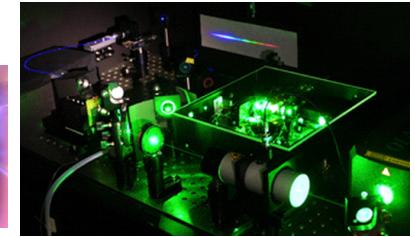


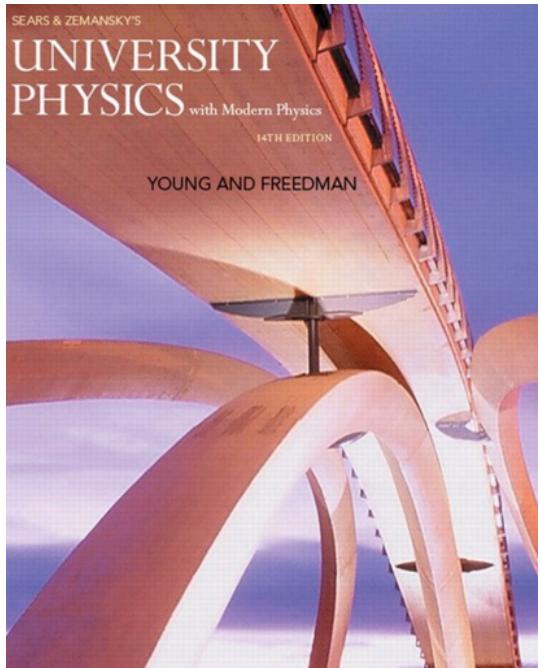


force, ...,
Newton's laws, ...,
ideal-gas law, ...,

- X
- X
- ✓
- ✓
- ✓
- ✓

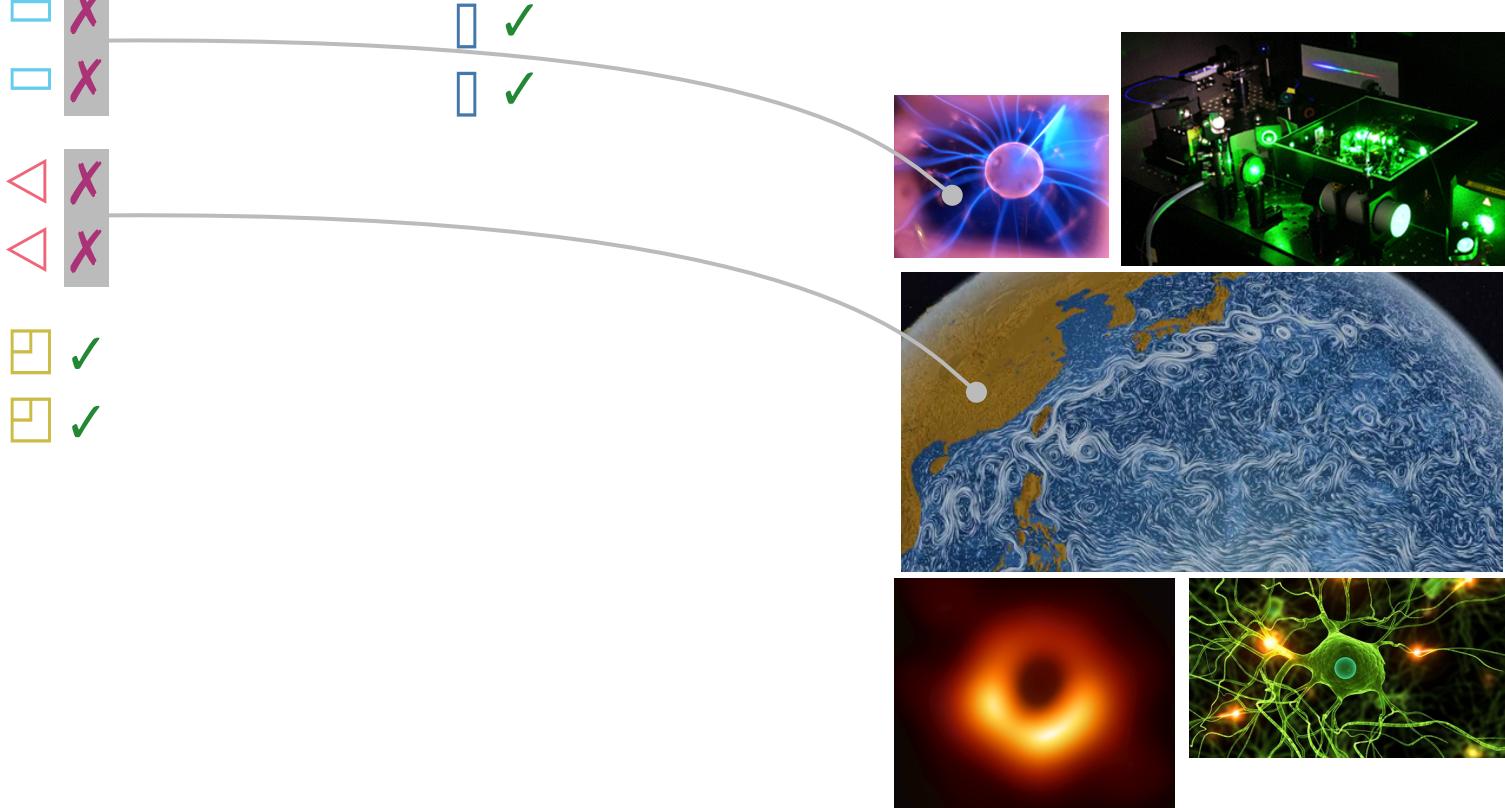
- ✓
- ✓

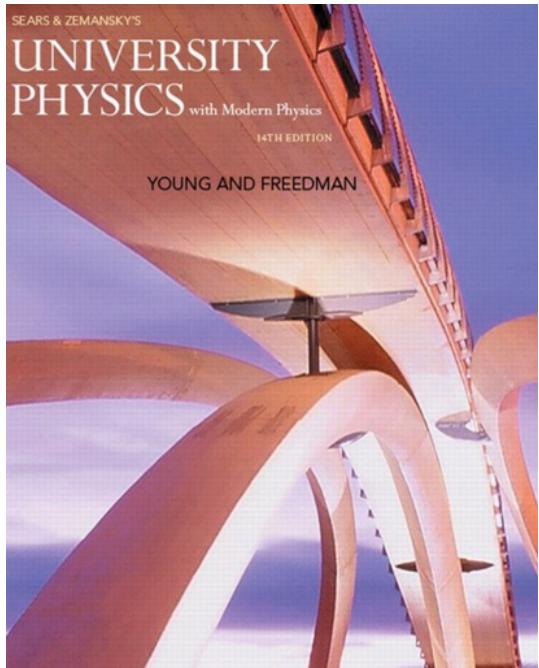




force, ...,
Newton's laws, ...,
ideal-gas law, ...,

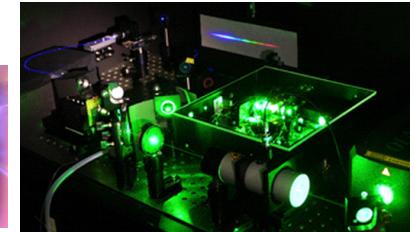
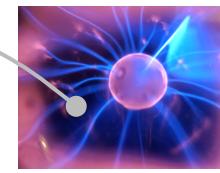
- X
- X
- X
- X
- ✓
- ✓

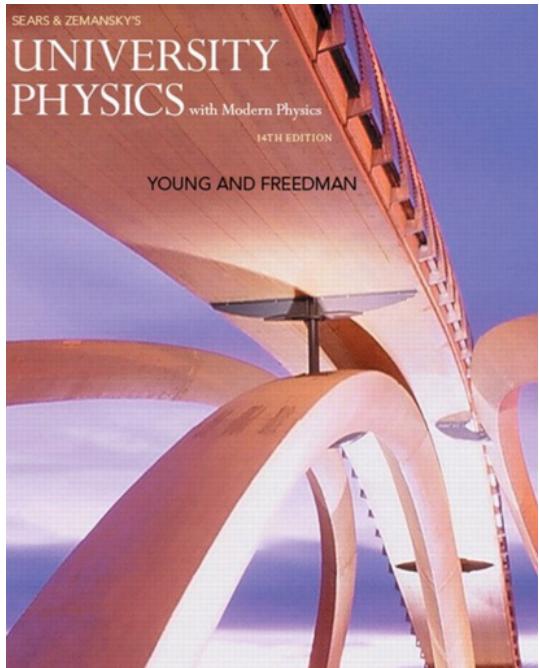




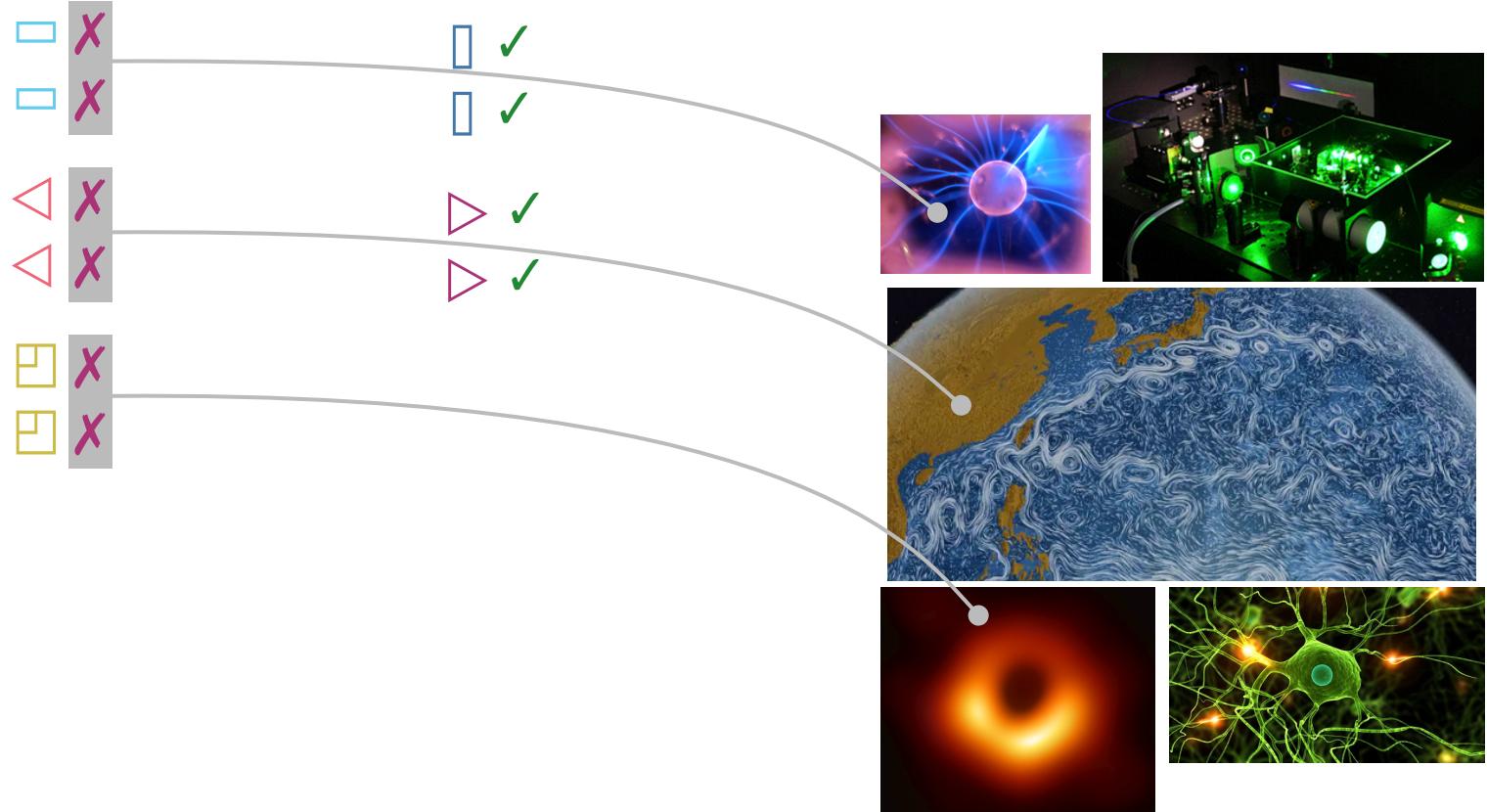
force, ...,
Newton's laws, ...,
ideal-gas law, ...,

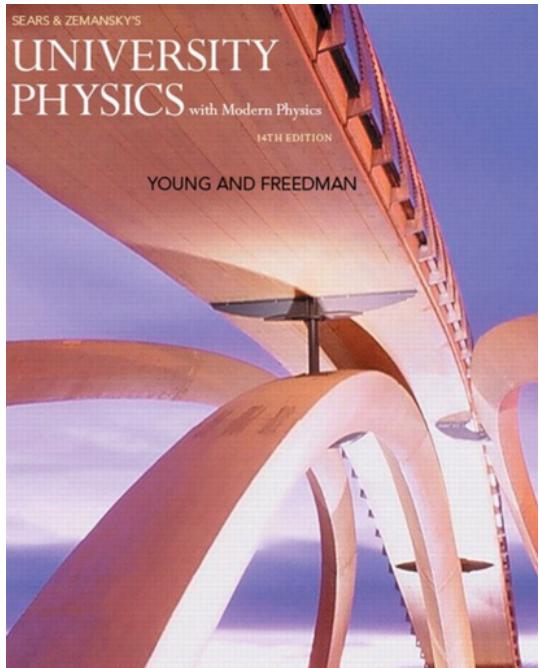
- X
- X
- X
- X
- ✓
- ✓
- X
- X
- ✓
- ✓
- ✓
- ✓



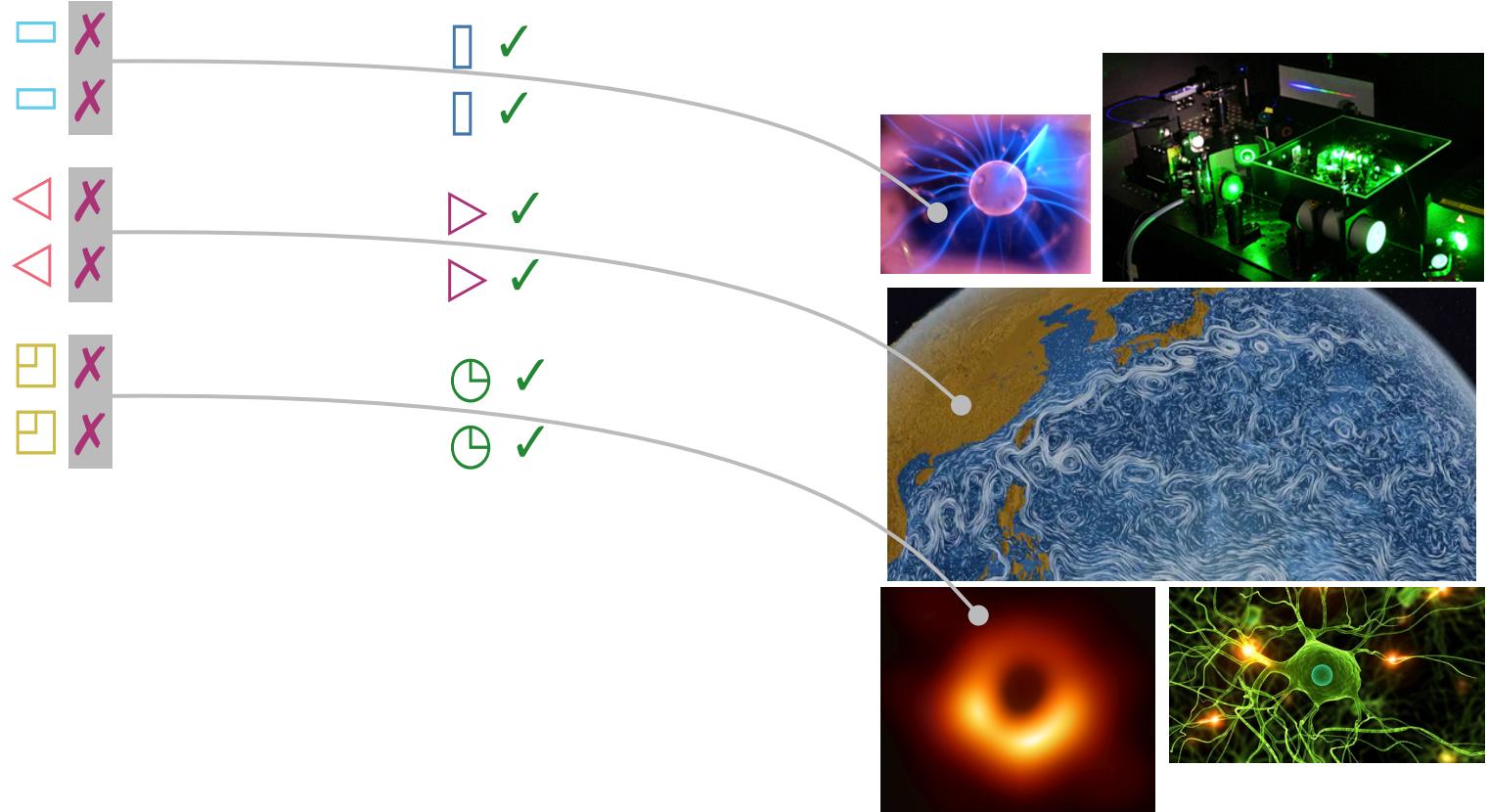


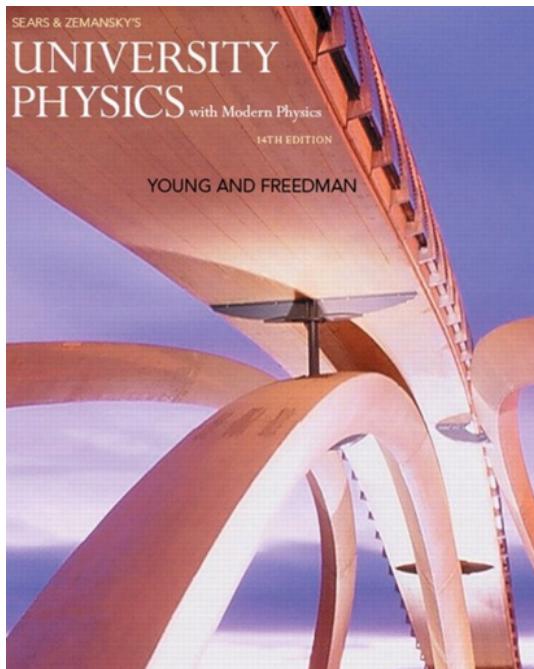
force, ...,
Newton's laws, ...,
ideal-gas law, ...,



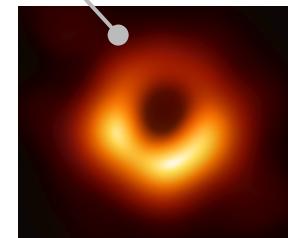
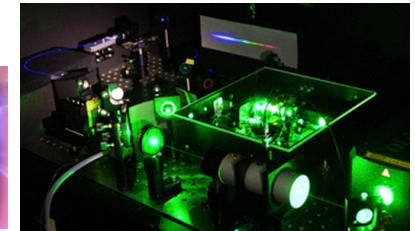


force, ...,
Newton's laws, ...,
ideal-gas law, ...,





force, ...,
Newton's laws, ...,
ideal-gas law, ...,



$$\frac{d(r \times P)}{dt} + r \times F = r \times L_p \cdot (E, \Phi, P, F)$$

$$\frac{dE}{dt} + \Phi = L_e \cdot (E, \Phi, P, F) \quad \frac{dP}{dt} + F = L_p \cdot (E, \Phi, P, F)$$

seven
universal
balance laws

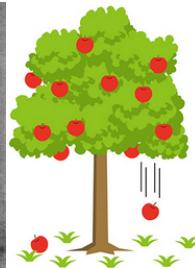
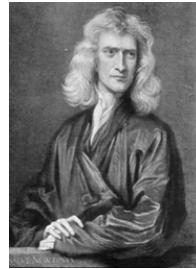


$$\frac{dN}{dt} + J = 0$$

$$\frac{dS}{dt} + H \geq 0$$

$$\frac{dQ}{dt} + I = 0$$

$$\frac{dB}{dt} + E = 0$$



$$\frac{d(r \times P)}{dt} + r \times F = r \times L_p \cdot (E, \Phi, P, F)$$

$$\frac{dE}{dt} + \Phi = L_e \cdot (E, \Phi, P, F) \quad \frac{dP}{dt} + F = L_p \cdot (E, \Phi, P, F)$$

seven
universal
balance laws

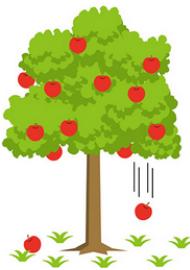
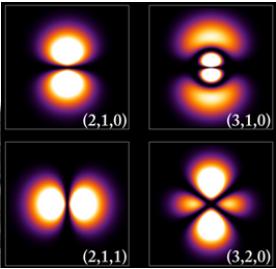


$$\frac{dN}{dt} + J = 0$$

$$\frac{dS}{dt} + H \geq 0$$

$$\frac{dQ}{dt} + I = 0$$

$$\frac{dB}{dt} + E = 0$$



$$\frac{d(r \times P)}{dt} + r \times F = r \times L_p \cdot (E, \Phi, P, F)$$

$$\frac{dE}{dt} + \Phi = L_e \cdot (E, \Phi, P, F)$$

$$\frac{dP}{dt} + F = L_p \cdot (E, \Phi, P, F)$$

seven
universal
balance laws

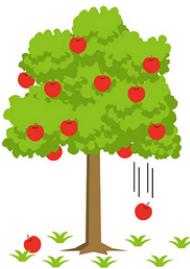
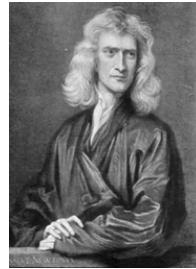
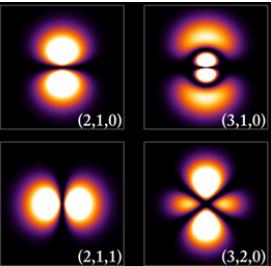


$$\frac{dN}{dt} + J = 0$$

$$\frac{dS}{dt} + H \geq 0$$

$$\frac{dQ}{dt} + I = 0$$

$$\frac{dB}{dt} + E = 0$$



$$\frac{d(r \times P)}{dt} + r \times F = r \times L_p \cdot (E, \Phi, P, F)$$

$$\frac{dE}{dt} + \Phi = L_e \cdot (E, \Phi, P, F)$$

$$\frac{dP}{dt} + F = L_p \cdot (E, \Phi, P, F)$$

$$\frac{dN}{dt} + J = 0$$

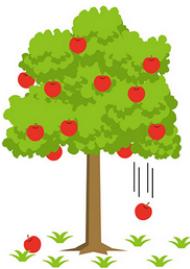
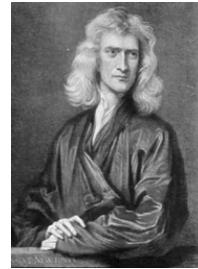
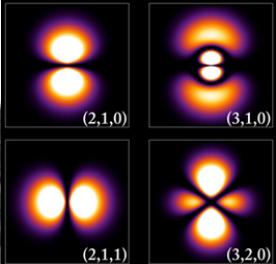
seven
universal
balance laws



$$\frac{dS}{dt} + H \geq 0$$

$$\frac{dQ}{dt} + I = 0$$

$$\frac{dB}{dt} + E = 0$$



$$\frac{d(r \times P)}{dt} + r \times F = r \times L_p \cdot (E, \Phi, P, F)$$

$$\frac{dE}{dt} + \Phi = L_e \cdot (E, \Phi, P, F)$$

$$\frac{dP}{dt} + F = L_p \cdot (E, \Phi, P, F)$$

seven
universal
balance laws



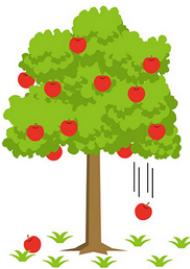
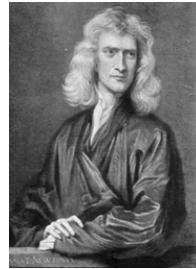
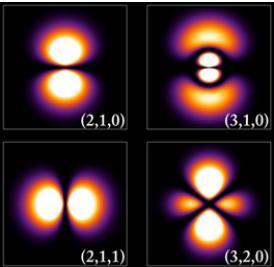
$$\frac{dN}{dt} + J = 0$$

$$\frac{dS}{dt} + H \geq 0$$

$$\frac{dQ}{dt} + I = 0$$

$$\frac{dB}{dt} + E = 0$$





$$\frac{d(r \times P)}{dt} + r \times F = r \times L_p \cdot (E, \Phi, P, F)$$

$$\frac{dE}{dt} + \Phi = L_e \cdot (E, \Phi, P, F)$$

$$\frac{dP}{dt} + F = L_p \cdot (E, \Phi, P, F)$$

seven
universal
balance laws

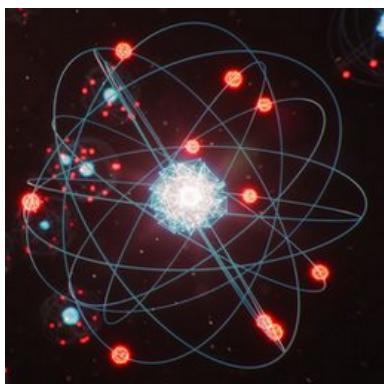


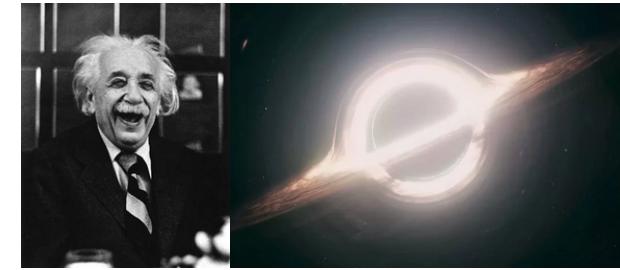
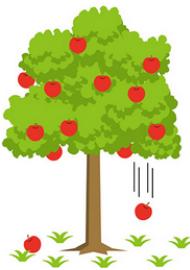
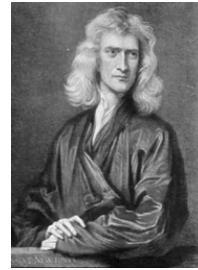
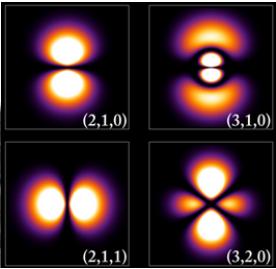
$$\frac{dN}{dt} + J = 0$$

$$\frac{dS}{dt} + H \geq 0$$

$$\frac{dQ}{dt} + I = 0$$

$$\frac{dB}{dt} + E = 0$$





$$\frac{d(r \times P)}{dt} + r \times F = r \times L_p \cdot (E, \Phi, P, F)$$

$$\frac{dE}{dt} + \Phi = L_e \cdot (E, \Phi, P, F)$$

$$\frac{dP}{dt} + F = L_p \cdot (E, \Phi, P, F)$$

seven
universal
balance laws

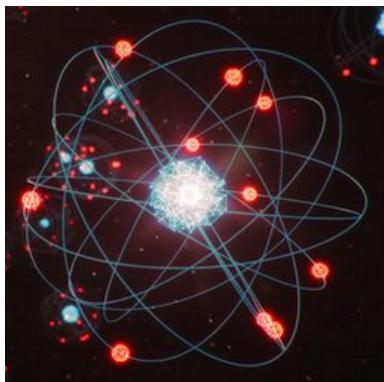


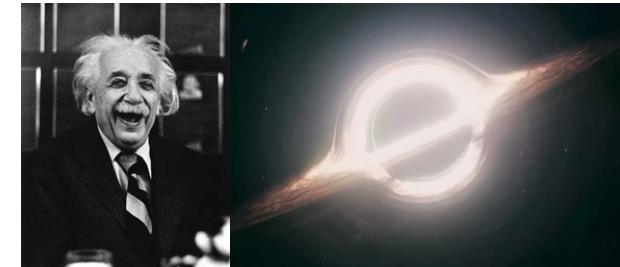
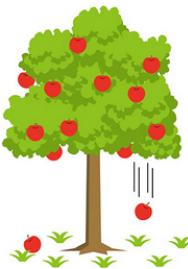
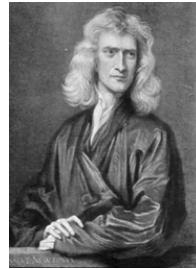
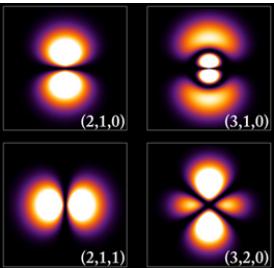
$$\frac{dN}{dt} + J = 0$$

$$\frac{dS}{dt} + H \geq 0$$

$$\frac{dQ}{dt} + I = 0$$

$$\frac{dB}{dt} + E = 0$$





$$[E \quad P]^\tau = [E \quad P]$$

$$dE = \Gamma_e \cdot (E, P)$$

$$dP = \Gamma_p \cdot (E, P)$$

$$dN = 0$$

seven
universal
balance laws



$$dS \geq 0$$

$$dQ = 0$$

$$dB = 0$$

