CLAIMS

1. A method (M1; M2) performed by a control device (100) for controlling driving operation of an articulated tracked vehicle (V), said articulated tracked vehicle comprising a drive arrangement (120) for driving drive wheels (1) of the vehicle for operating the vehicle, a brake system (130) for braking the drive wheels (1) of the vehicle, and a transmission arrangement (140) for providing gear shift of the drive wheels (1), the articulated tracked vehicle (V) comprising a first vehicle unit (V1) and a second vehicle unit (V2) steerably connected to the first vehicle unit (V1) by a steering device (D) for mutually pivoting said vehicle units (V1, V2), the mutual pivoting comprising roll movement about a roll axis (X), the steering device (D) comprising a roll arrangement (A2) for said roll movement, the roll arrangement (A2) comprising a rotation member (R), a control arrangement (110) being provided for controlling the roll arrangement (A2), the method comprising the steps of:

– determining coincident spinning of tracks on a side of the first vehicle unit (V1) and tracks on an opposite side of the second vehicle unit (V2);

– reducing relative roll movement of the vehicle units (V1, V2) based on the determination of coincident spinning;

– determining a power of said drive arrangement (120), a speed of the drive wheels (1), and a speed of transmission of said transmission arrangement (140); and,

– controlling (S1) the roll arrangement (A2) of the steering device (D) so as to control mutual roll movement of said vehicle units (V1, V2) and reduce risk of the vehicle tipping over by the control arrangement (110) acting on the rotation member (R) based on the power of said drive arrangement (120), the speed of the drive wheels (1), and the speed of transmission of said transmission arrangement (140).

2. A method according to claim 1, wherein the step of controlling the roll arrangement (A2) by the control arrangement (110) comprises providing a

brake function and/or a locking function and/or a damping function and/or an actuation function of the control arrangement (110).

3. A method according to claim 1, wherein the step of controlling mutual roll movement of said vehicle units (V1, V2) further comprises controlling: a power provision of the drive arrangement (120); the braking system (130) of the vehicle (V); and the transmission arrangement (140) of the vehicle (V).

4. A method according to claim 1, wherein the step of controlling mutual roll movement of said vehicle units (V1, V2) is further performed based on roll angle between said vehicle units (V1, V2).

5. A control device (100) for controlling driving operation of an articulated tracked vehicle (V), said articulated tracked vehicle comprising a drive arrangement (120) for driving drive wheels (1) of the vehicle for operating the vehicle (V), a brake system (130) for braking the drive wheels (1) of the vehicle, and a transmission arrangement (140) for providing gear shift of the drive wheels (1), the articulated tracked vehicle (V) comprising a first vehicle unit (V1) and a second vehicle unit (V2) steerably connected to the first vehicle unit (V1) by a steering device (D) for mutually pivoting said vehicle units (V1, V2), the mutual pivoting comprising roll movement about a roll axis (X), the steering device (D) comprising a roll arrangement (A2) for said roll movement, the roll arrangement (A2) comprising a rotation member (R), a control arrangement (110) being provided for controlling the roll arrangement (A2), the control device (100) being configured to:

– determine coincident spinning of tracks on a side of the first vehicle unit (V1) and tracks on an opposite side of the second vehicle unit (V2);

– reduce relative roll movement of the vehicle units (V1, V2) based on the determination of coincident spinning;

– receive information about: a power of said drive arrangement (120), a speed of the drive wheels (1), and a speed of transmission of said transmission arrangement (140); and

– control the roll arrangement (A2) of the steering device (D) so as to control mutual roll movement of said vehicle units (V1, V2) and reduce the risk of the vehicle tipping over by the control arrangement (110) acting on the rotation member (R) based on the power of said drive arrangement (120), the speed of the drive wheels (1), and the speed of transmission of said transmission arrangement (140).

6. A control device according to claim 5, the control arrangement (110) comprising a brake member (112) for providing a brake function and/or a locking member (114) for providing a locking function and/or a damping member (116) for providing a damping function and/or an actuator member (118) for providing an actuation function.

7. A control device according to claim 5, the control device (100), when controlling mutual roll movement of said vehicle units (V1, V2), further being configured to control: a power provision of the drive arrangement (120); the brake system (130) of the vehicle (V); and the speed of transmission of the transmission arrangement (140) of the vehicle (V).

8. A control device according to claim 5, the control device (100), when controlling mutual steering movement of said vehicle units (V1, V2), is further configured to perform said control based on roll angle between said vehicle units (V1, V2).

9. An articulated tracked vehicle (V) comprising a control device (100) according to claim 6.

10. A system for controlling driving operation of an articulated tracked vehicle, said system comprising a non-transitory memory storing program code which,

when run on a control device (100) or another computer (500) connected to the control device (100), causes the control device to perform the method according to claim 1.

11. A non-transitory computer readable medium comprising instructions which, when executed by a computer, cause the computer to carry out the method according to claim 1.